

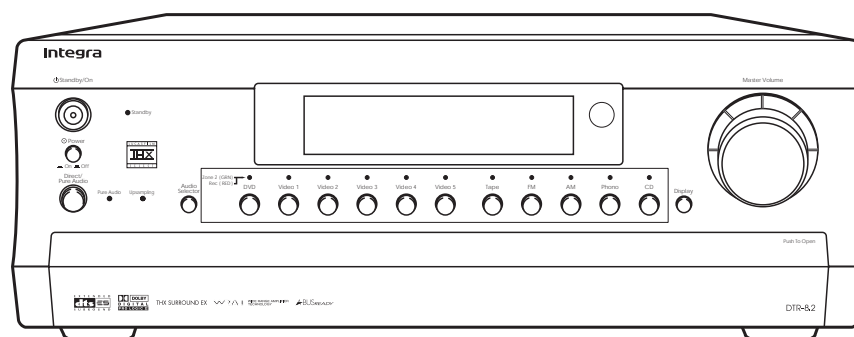
# Integra SERVICE MANUAL

Ref. No.3713

Oct, 2001

## AV Amplifier


## DTR-8.2



### Black model

BMDD	120V AC, 60Hz
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### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

## SPECIFICATIONS

### AMPLIFIER SECTION

Continuous Average Power output (FTC)

**All channels:** **110 watts per channel min. RMS at 8 ohms, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.**  
**145 watts min. RMS at 6 ohms, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.**

Continuous Power output (DIN) 150 watts at 6 ohms

Maximum Power output (EIAJ) 180 watts at 6 ohms

Dynamic Power Output (Stereo) 2 × 280 watts at 3 ohms

2 × 220 watts at 4 ohms

2 × 140 watts at 8 ohms

Total Harmonic Distortion: 0.08% at rated power

0.08% at 1 Watt output

IM Distortion: 0.08% at rated power

0.08% at 1 Watt output

Damping Factor: 60 at 8 ohms

Input Sensitivity and Impedance

PHONO: 2.5 mV, 50 kohms

LINE (CD, TAPE, DVD,

VIDEO 1-5): 200 mV, 50 kohms

MULTICHANNEL INPUT

(FRONT L/C/R, SURROUND

L/R, SURROUND BACK L/R): 200 mV, 50 kohms

(SUBWOOFER): 36 mV, 50 kohms

COAXIAL 1, 2, 3 (DIGITAL): 0.5 Vp-p, 75 ohms

DVD, VIDEO 1, 2, 3, 4, 5: 1 Vp-p, 75 ohms

1 Vp-p, 75 ohms (Y)

0.28 Vp-p, 75 ohms (C)

COMPONENT VIDEO 1, 2: 1 Vp-p, 75 ohms (Y)

0.7 Vp-p, 75 ohms (P<sub>B</sub>, P<sub>R</sub>)

Output Level and Impedance

Rec out (TAPE, VIDEO 1, 2):

200 mV, 470 ohms

Pre out: 1 V, 470 ohms

ZONE 2 OUT: 100mV, 470 ohms

VIDEO (VIDEO 1, 2, MONITOR

OUT, ZONE 2 OUT):

1 Vp-p, 75 ohms

1 Vp-p, 75 ohms (Y)

0.28 p-p, 75 ohms (C)

COMPONENT VIDEO OUT: 1 Vp-p, 75 ohms (Y)

0.7 Vp-p, 75 ohms (P<sub>B</sub>, P<sub>R</sub>)

Phono Overload: 120 mV RMS at 1 kHz, 0.5% T.H.D.

Frequency Response: 5 Hz to 100 kHz : +1/-3 dB

(CD in Direct mode)

RIAA Deviation: 20 Hz to 20 kHz : ±0.8 dB

Tone Control

Bass: ±10 dB at 50 Hz

Treble: ±10 dB at 20,000 Hz

Signal-to-Noise Ratio (Stereo)

Phono: 80 dB (IHF A, 5 mV input)

CD/Tape: 110 dB (IHF A, 0.5 V input)

### TUNER SECTION

#### FM

Tuning Range: 87.5— 108.0 MHz (50 kHz steps)

Usable Sensitivity

Mono: 11.2 dBf, 1.0 μV (75 ohms IHF)

0.9 μV (75 ohms DIN)

Stereo: 17.2 dBf, 2.0 μV (75 ohms IHF)

23 μV (75 ohms DIN)

50 dB Quieting Sensitivity

Mono: 17.2 dBf, 2.0 μV (75 ohms)

Stereo: 37.2 dBf, 20 μV (75 ohms)

Capture Ratio: 2.0 dB

Image Rejection Ratio 40 dB

IF Rejection Ratio: 90 dB

Signal-to-Noise Ratio

Mono: 76 dB

Stereo: 70 dB

Alternate Channel Attenuation: 55 dB

Selectivity: 50 dB (DIN)

AM Suppression Ratio: 50 dB

Total Harmonic Distortion

Mono: 0.2%

Stereo: 0.3%

Frequency Response: 30 Hz— 15 kHz, ±1.0 dB

Stereo Separation: 45 dB at 1 kHz

30 dB at 100 Hz— 10 kHz

#### AM

Tuning Range: 530—1,710 kHz (10 kHz steps)

Usable Sensitivity: 30 μV

Image Rejection Ratio: 40 dB

IF Rejection Ratio: 40 dB

Signal-to-Noise Ratio: 40 dB

Total Harmonic Distortion: 0.7%

### GENERAL

Power Supply: AC 120 V, 60 Hz

Power Consumption: 7.8 A

Dimensions (W×H×D): 17-1/8"×6-7/8"×18-1/8"

Weight: 38.4 lbs.

### REMOTE CONTROLLER

Transmitter: Infrared

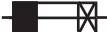
Signal range: Approx. 5 meters, 16 ft.


Power supply: Two "AA" batteries (1.5 V × 2)

Specifications and features are subject to change without notice.

## SERVICE PROCEDURES

### 1. Replacing the fuses

 This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce dernier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252196	12A-UL/T-314
F9501,F9502	252160 or 252254	2.5A-UL/T-237 or 2.5A-T/UL-ST2
F9503,F9504	252158 or 252252	1.6A-UL/T-237 or 1.6A-T/UL-ST2

### 2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

- 1.Press and hold down the VIDEO 1 button, then press the STANDBY/ON button.
- 2.After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.

### 3. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel.  
Specifications: 3.3Mohm  $\pm$  10% at 500V.

### 4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

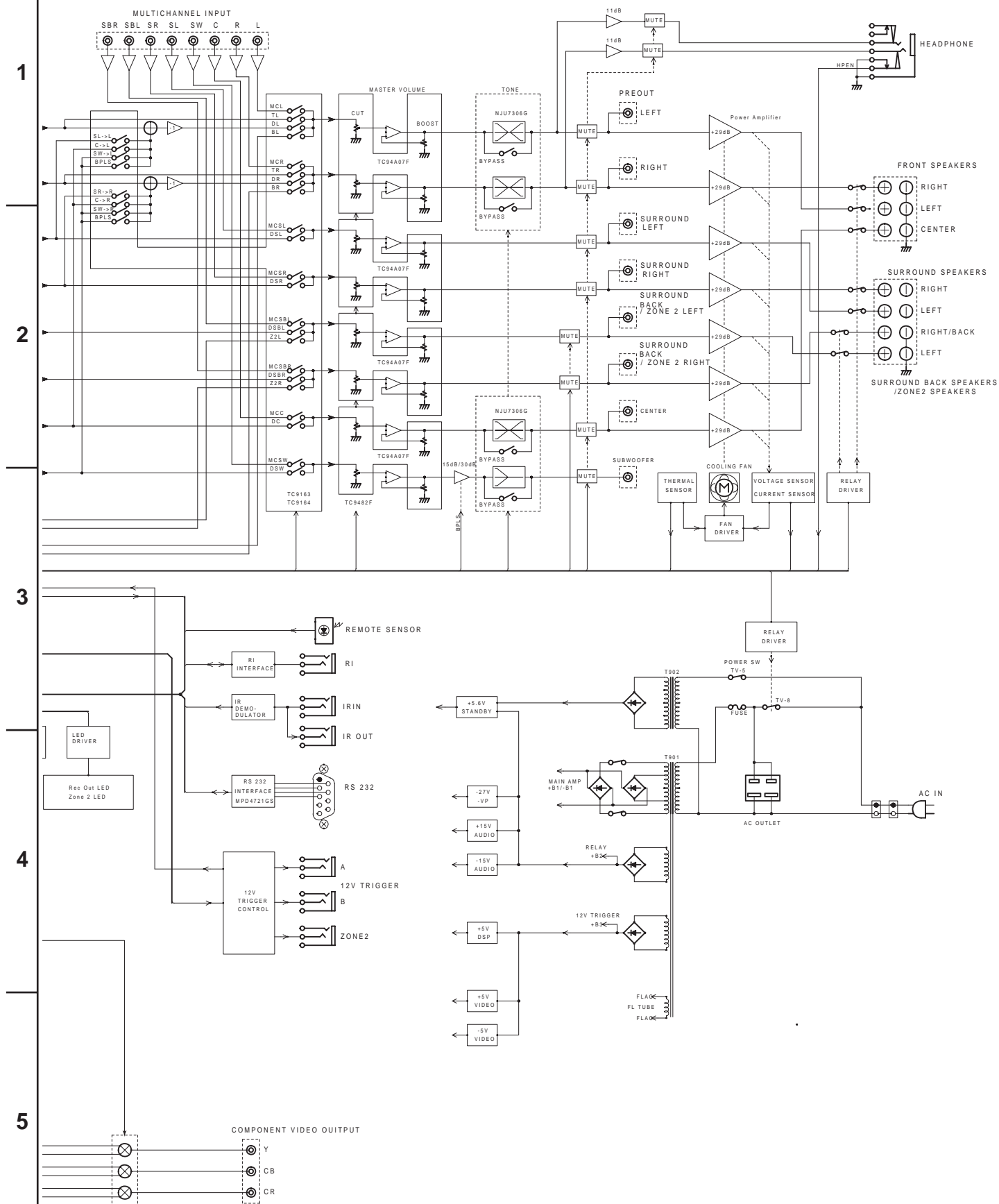
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**BLOCK DIAGRAM 2**



# ADJUSTMENT AND CONFIRMATION PROCEDURES 1

## Idling current adjustment

Before Idling adjustment, turn the trimming resistors R6040 to R6046 to counter clockwise.

Connect the DC voltmeter to sockets P6080 to P6086.

After turn POWER to ON, adjust the trimming resistors R6040, R6041 and R6042 so that the reading of voltmeter becomes 7.0 mV. (Front and center channels)

Adjust the trimming resistors R6043, R6044, R6045 and R6046 so that the reading of voltmeter becomes 5.0 mV. (Surround and surround back channels)

After adjustment, attach the top cover.

Confirm the voltage of points above after about five minutes.

### Front and center channels

When less than 9.0 mV, readjust the resistors above so that the voltage becomes 9.0 mV.

When 9.0 mV to 11.0 mV, you are not necessary to adjust.

When more than 11.0 mV, readjust the resistors above so that the voltage becomes 11.0 mV.

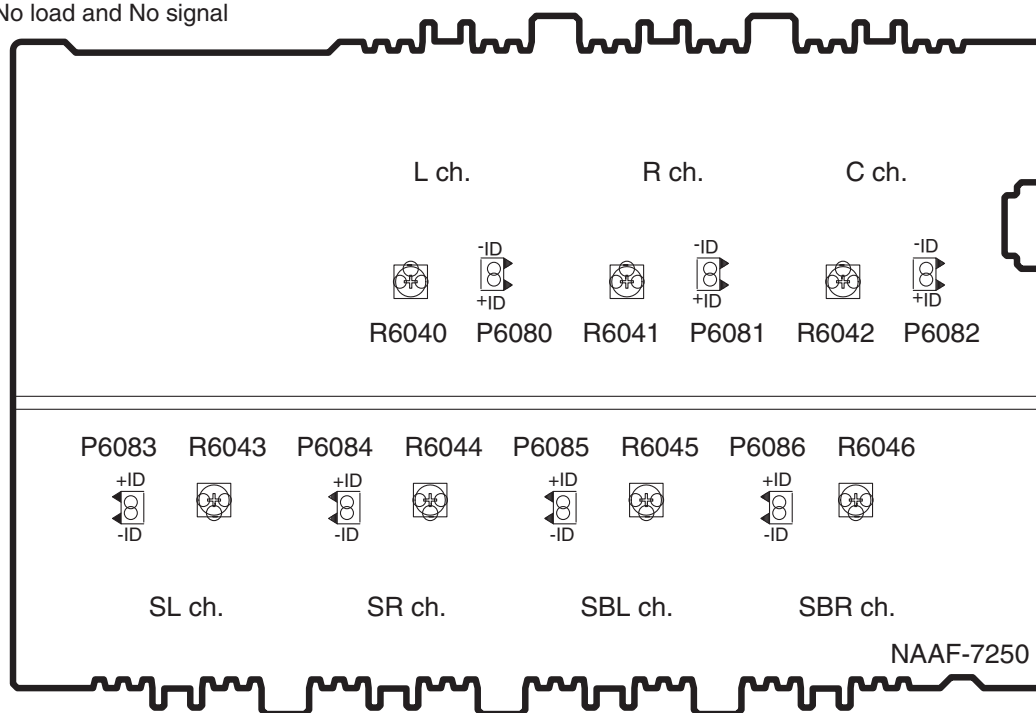
### Surround and surround back channels

When less than 6.0 mV, readjust the resistors above so that the voltage becomes 6.0 mV.

When 6.0 mV to 8.0 mV, you are not necessary to adjust.

When more than 8.0 mV, readjust the resistors above so that the voltage becomes 8.0 mV.

Note: No load and No signal



## Confirmation of protection circuit

### 1. Confirmation of operation of speaker relay

Confirm that the speaker relays turn ON approximate. 5 seconds after the power switch is turned ON.

Confirm that the speaker relays turn OFF immediately after the power switch is turned OFF.

### 2. Confirmation of DC detection circuit

Press and hold down CD button, then press STANDBY/ON and DISPLAY buttons to set the unit to "TEST-1" mode.

After "TEST-1" on the FL tube light on, press VIDEO 1 button to set the unit to "TEST-1-00".

Apply DC 1.5 to 3V to MULTI CHANNEL INPUT terminal with no load.

Confirm that the speaker relay turns OFF.

Apply DC -1.5 to -3V to MULTI CHANNEL INPUT terminal with no load.

Confirm that the speaker relay turns OFF.

Caution: Don't apply DC voltage more than 1 sec..

## ADJUSTMENT AND CONFIRMATION PROCEDURES 2

### 3. Confirmation of Current detection circuit

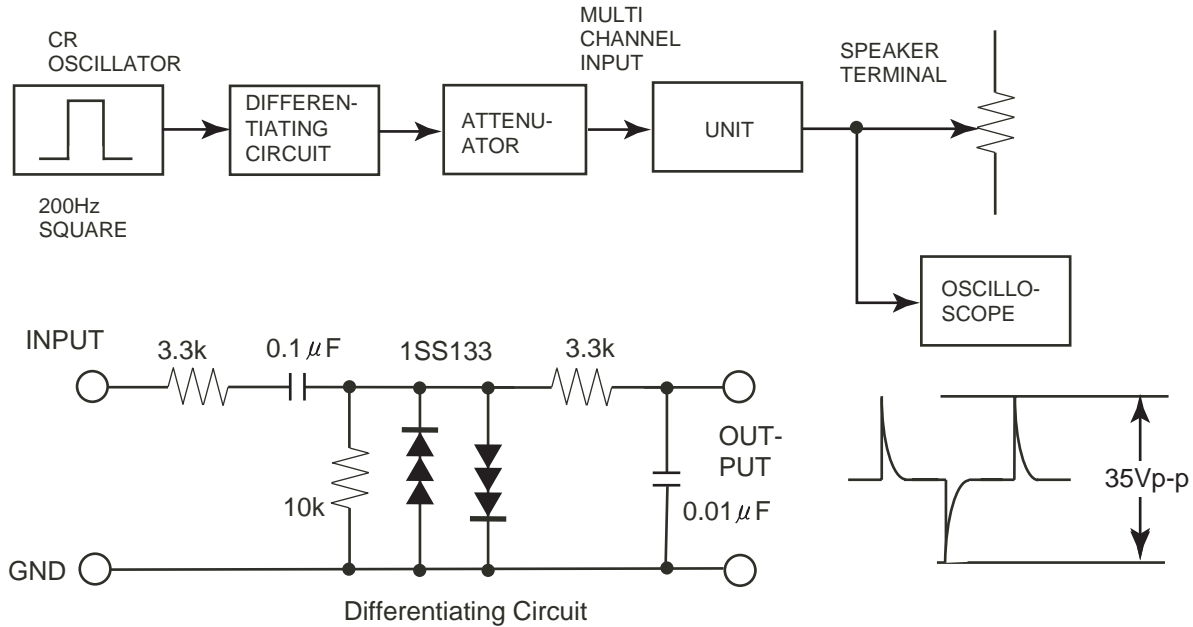
Set the unit to "TEST-1-00".

Connect the differentiating circuit and apply the 200Hz square signal to MULTI CHANNEL INPUT terminal of each channel.

Adjust the attenuator or Volume so that the output level becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.



### Confirmation of fan

Set the unit to "TEST-1-00".

Apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.

Confirm that the fan rotates slow speed after few seconds.

Connect the 1.2 kohm/1W resistor between terminals COM and TH-1 of P6401 with no input signal.

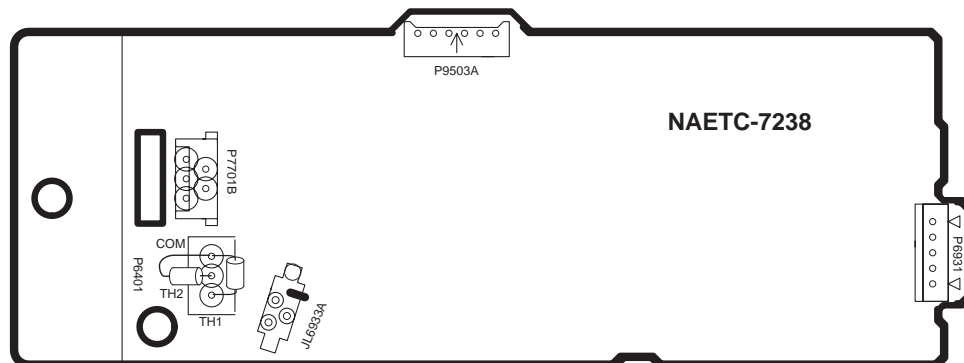
Confirm that the fan rotates slow speed after few seconds.

Next apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.

Confirm that the fan rotates high speed after few seconds.

Connect the 1.2 kohm/1W resistors between terminals COM-TH-1 and COM-TH-2 of P6401 respectively with no input signal.

Confirm that the fan rotates high speed after few seconds.



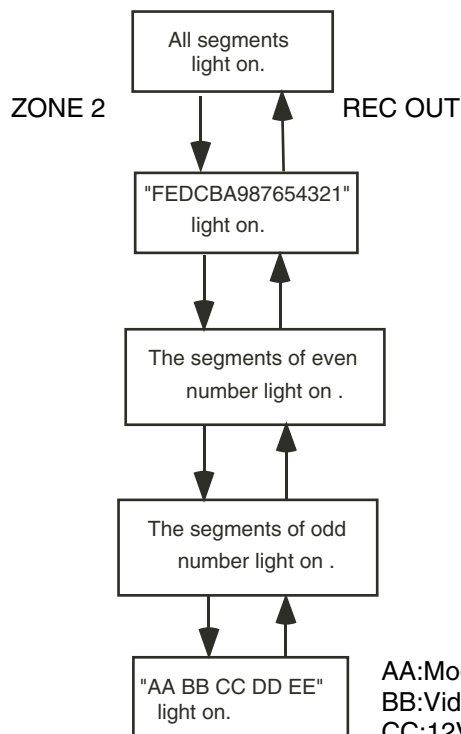
## ADJUSTMENT AND CONFIRMATION PROCEDURES 3

### Test Mode

1. Turn POWER button on.
2. Press and hold down CD button, then press DISPLAY and STANDBY/ON buttons.
3. After "TEST-1" on the FL tube is displayed, press CD button to set the unit to the test mode of FL tube.

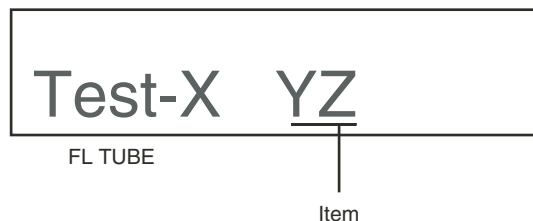
Note: VIDEO 1:TEST-1 VIDEO 2 :TEST-2 ZONE2: UP  
VIDEO 3 :TEST-3 VIDEO 4:TEST-4 REC OUT: DOWN

### Test mode of FL tube



AA:Model "89":TX-DS898 "79":TX-DS797  
 BB:Video Mode "NS": NTSC "PL": PAL AUTO  
 CC:12V TRIGGER "TR": Available " ":No available  
 DD:RDS "RD": Available " ":No available  
 EE:Tuner band EU:Europe US: USA SA:Worldwide JP:Japan

Press POWER button  
to finish the test mode of FL tube.

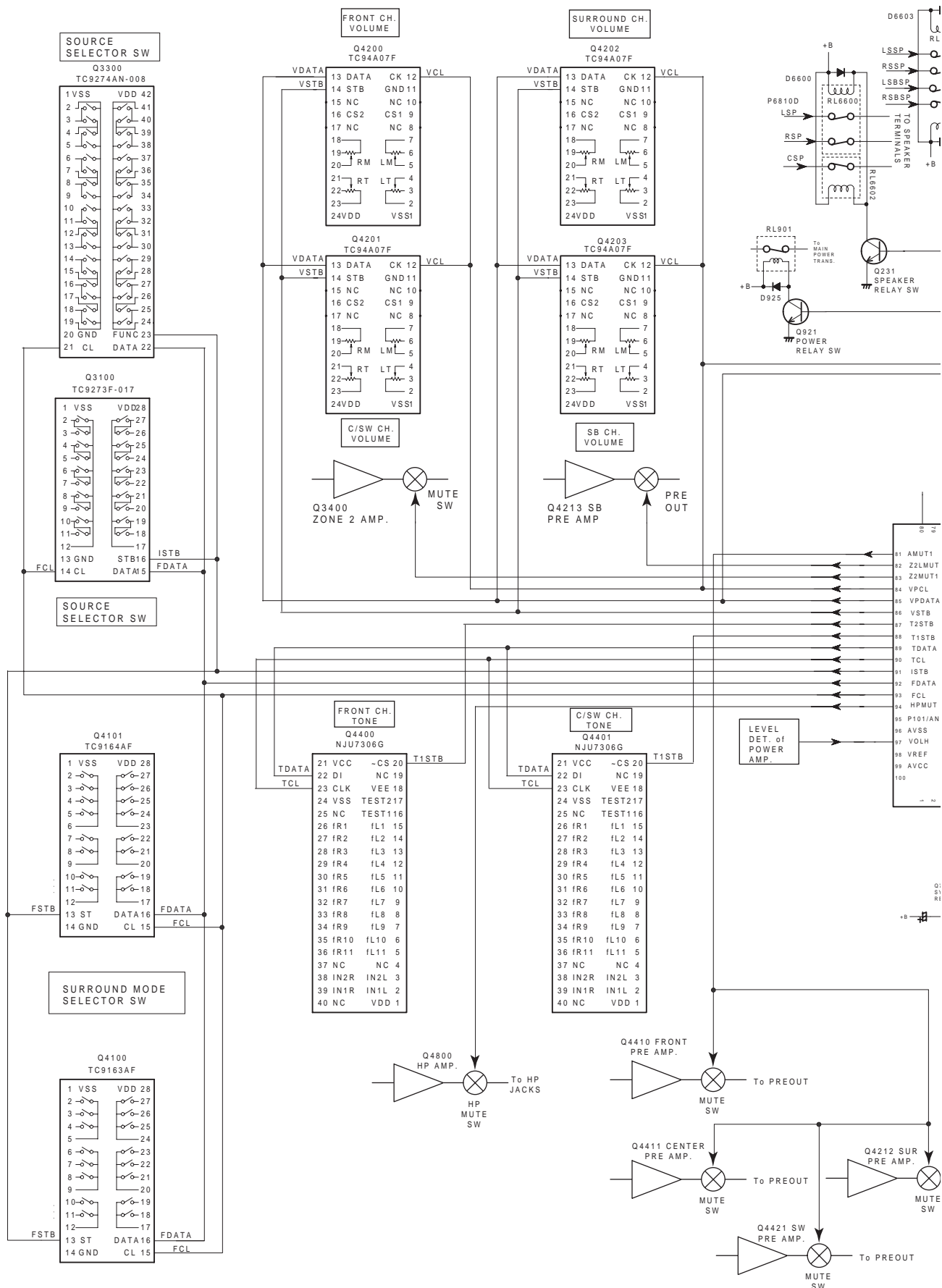


### Confirmation of voltage sensor

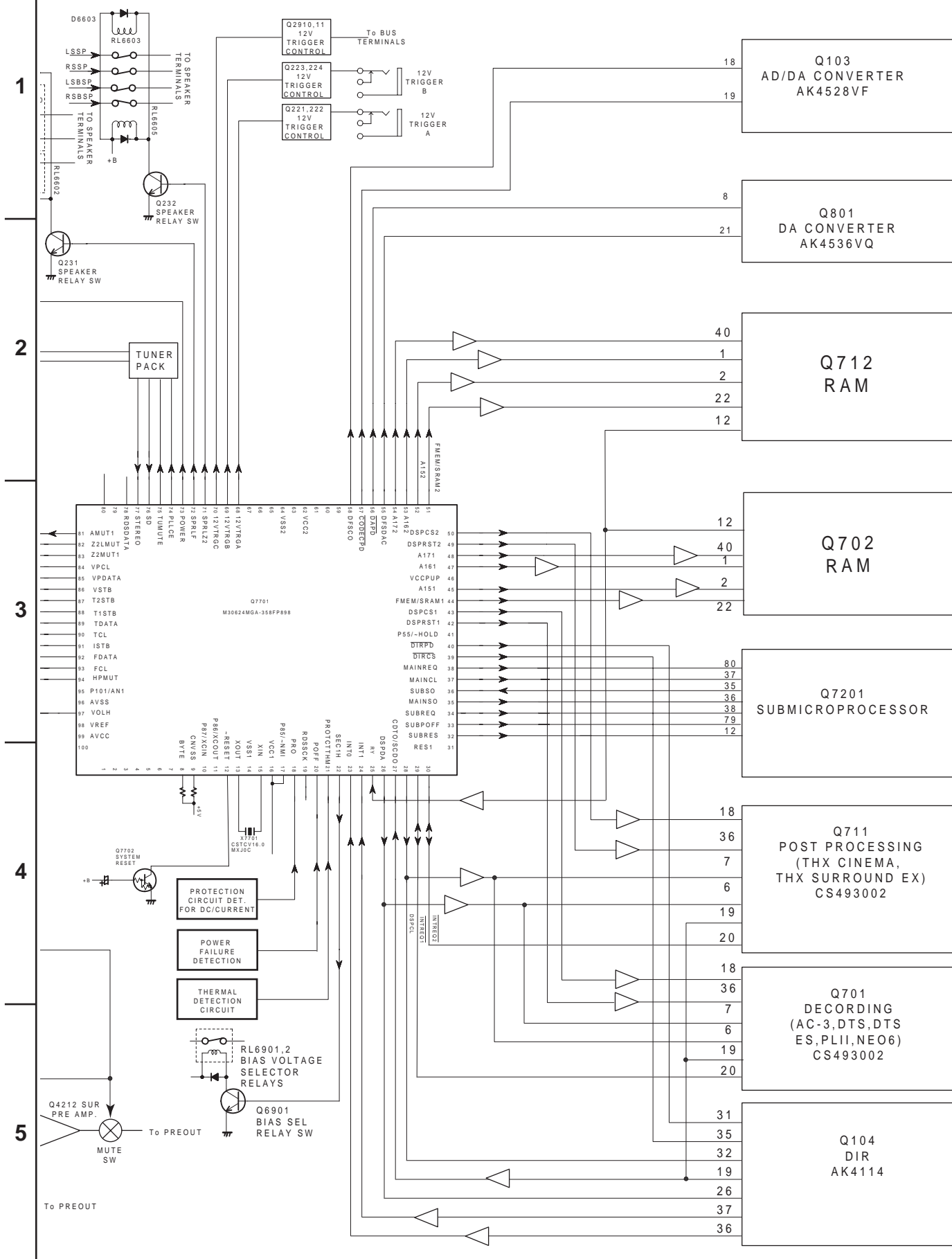
1. Set the unit to TEST-3-4.
2. Apply the signal 1kHz, -15dBV to the MULTI-CH input. Confirm that the FM STEREO is displayed. Confirm the all channels except SUBWOFFER.
3. When connect the resistor 1.2 kohm/1 W between the terminals COM and TH1 of P6401, confirm that "MEMORY" light on.  
Note: No input signal.
4. When change set the unit to "TEST-4-39, confirm that the speaker relays of RL6901 and RL6902 turn off.  
Note: No input signal.



## MAIN MICROPROCESSOR-CONNECTION DIAGRAM



# MAIN MICROPROCESSOR-CONNECTION DIAGRAM

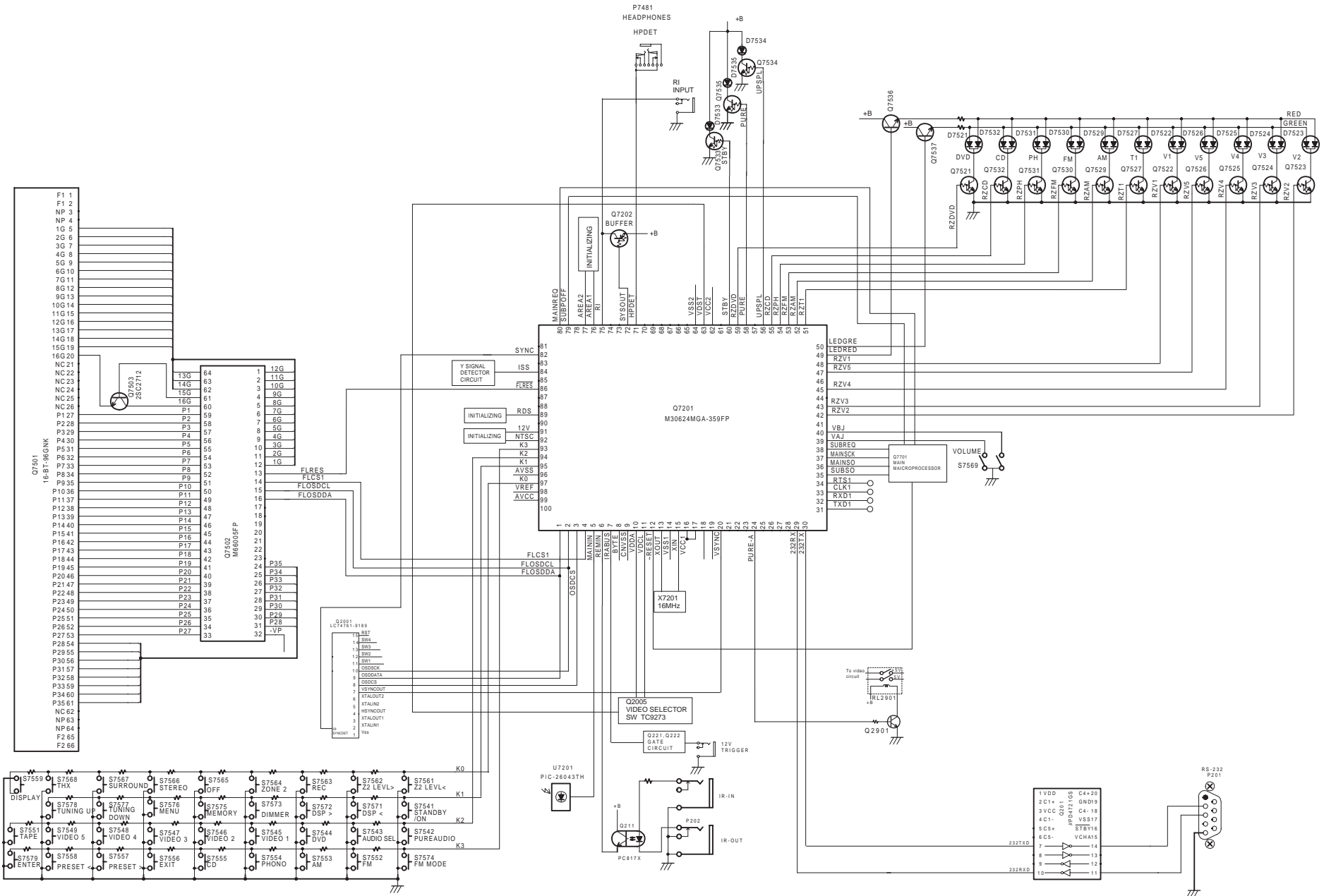


## MAIN MICROPROCESSOR

### Terminal Descriptions

No.	Function	I/O	Act.	Description	No.	Function	I/O	Act.	Description
8	BYTE	I		Input pin to change the width of external data bus. Connect to Vss.	52	ADR152	O	H	Signal output pin to control address 15 of flash memory for second DSP.
9	CNVSS	I		Input pin to change the processor mode. Connect to Vss.	53	ADR162	O	H	Signal output pin to control address 16 of flash memory for second DSP.
12	~RESET	I		Reset pin of microprocessor	54	ADR172	O	H	Signal output pin to control address 17 of flash memory for second DSP.
13	XOUT	O		Output pin of main clock oscillator	55	DFSDAC	O	H	DAC sampling control output pin.
14	VSS	I		Ground pin	56	~DARST	O	L	Reset output pin for six channels DAC.
15	XIN	I		Input pin of main clock oscillator	57	~CODECPD	O	L	Reset output pin for CODEC IC.
16	VCC	I		Power supply pin. Apply 5V.	58	DFSCO	O	H	Sampling frequency control output pin for CODEC IC.
18	PRTCTV	I	H	Abnormal voltage/current detection input pin from protection circuit	62	VCC	I		Power supply pin. Apply 5V.
19	RDSSCK	I	CLK	Modulator clock signal input pin from RDS decoder IC.	64	VSS	I		Power supply pin. Connect to ground.
20	~POFF	I	L	Input pin from detection circuit of power failure	68	TRG12A	O	H	Output pin A to control the 12V trigger circuit.
21	~PRTCTTHM	I	L	Input pin from thermal detector circuit.	69	TRG12B	O	H	Output pin B to control the 12V trigger circuit.
22	SEC1H	O	H	Output terminal to change voltage of main amplifier.	70	TRG12Z	O	H	Output pin to control the 12V trigger circuit of zone 2.
23	INT0	I	H	Input terminal from interrupter output of DIR IC.	71	SPRLZ2	O	H	Output pin to control the speaker relay of zone 2.
24	INT1	I	H	Output terminal to interrupter input of DIR IC.	72	SLRLF	O	H	Output pin to control the speaker relay.
25	(DSPWRITE)	I	L	Input port for check when DSP flash write.	73	POWER	O	H	Output pin to control the relay of power source.
26	DIGSO	O	H	Serial data output pin to DSP, DIR, DAC, and Digital input ICs.	74	PLLCE	O	H	Latch data output pin to PLL IC.
27	DIGSI	I	H	Serial data input pin from DSP, and DIR ICs.	75	TUMUT	O	H	Muting control output pin for tuner block.
28	DIGSCK	O	CLK	Serial clock output pin to DSP, DIR, DAC, Digital input ICs.	76	~SD	I	L	Signal detection input pin from tuner section.
29	~INTRQ1	I	L	INTRQ input pin from DSP IC 2(CS49329)	77	~STEREO	I	L	Stereo broadcast detection input pin.
30	~INTRQ2	I	L	INTRQ input pin from DSP IC 1(CS49300)	78	RDSDATA	I	H	Data input pin from RDS demodulator IC.
32	~SUBRESET	O	L	Reset signal output pin to sub-microprocessor.	79	RDSSIG	I	H	Check signal input pin of RDS demodulator IC.
33	~SUBPOFF	O	L	Output pin to connect to pin POFF of sub-microprocessor.	81	AMUT	O	H	Muting control output pin for audio circuit.
34	~SUBREQ	I	L	Communication request input pin from sub-microprocessor.	82	Z2LMUT	O	H	Muting control output pin for line of zone 2.
35	MAINSO	O	H	Serial data output pin to sub-microprocessor.	83	Z2MUT	O	H	Muting control output pin for zone 2.
36	MAINSI	I	H	Serial data input pin from sub-microprocessor.	84	VPCLK	O	H	Serial clock output pin to electrical volume and PLL IC.
37	MAINSCK	O	CLK	Serial clock output pin for communication of main and sub-microprocessors.	85	VPDATA	O	H	Serial data output pin to electrical volume and PLL IC.
38	~MAINREQ	O	L	Communication request output pin of main microprocessor.	86	VSTB	O	H	Strobe output pin to electrical volume IC.
39	~DIRCS	O	L	Chip select output pin of DIR IC.	87	TCS2	O	L	Chip select output pin to tone control IC of surround and center channels.
40	~DIRRST	O	L	Reset signal output pin to DIR IC.	88	TCS1	O	L	Chip select output pin to tone control IC of front channel..
41				Writing port of flash memory IC.	89	TDATA	O	H	Serial data output pin to tone control IC.
42	~DSPRST1	O	L	Reset signal output pin to DSP IC 2.	90	TCLK	O	CLK	Serial clock output pin to tone control IC.
43	~DSPCS1	O	L	Chip select output pin to DSP IC 1.	91	FSTB	O	H	Strobe output pin to function switch ICs.
44	FMEM/GRAM1	O	H	Memory select output pin to RAM.	92	FDATA	O	H	Serial data output pin to function switch ICs.
45	ADR151	O	H	Signal output pin to control address 15 of flash memory for first DSP.	93	FCLK	O	CLK	Serial clock output pin to function switch ICs.
46				Port to write the flash memory IC.	94	HPMUT	O	H	Muting control output pin for headphone circuit.
47	ADR161	O	H	Signal output pin to control address 16 of flash memory for first DSP.	96	VSS	I		Power supply pin for A/D converter. Connect to ground.
48	ADR171	O	H	Signal output pin to control address 17 of flash memory for first DSP.	97	VOLH	I	H	Measurement input pin of main amplifier output.
49	~DSPRST2	O	L	Reset output pin to DSP IC 2.	98	VREF	I		Reference voltage input pin for A/D converter.
50	~DSPCS2	O	L	Chip select output pin to DSP IC 2.	99	VCC	I		Power supply pin for A/D converter. Apply 5V.
51	FMEM/GRAM2	O	H	2nd DSP memory select output pin. L=FLASH, H=SRAM					

## 4



## SUB MICROPROCESSOR

### Terminal Descriptions

No.	Function	I/O	Descriptions	No.	Function	I/O	Descriptions
1	FLOSDDA	O	Serial data output pin for FL tube driver and OSD IC.	50	LEDGRE	O	Power supply control output pin for zone 2 indicator
2	FLOSDCL	O	Serial clock output pin for FL tube driver and OSD IC.	51	RZTP	O	Tape indicator output pin.
3	OSDCS	O	Chip select output pin for OSD IC	52	RZAM	O	AM indicator output pin.
4	FLCS	O	Chip select output pin for FL tube driver	53	RZFM	O	FM indicator output pin.
5	MAININ	I	Signal input pin from remote control	54	RZPH	O	Phono indicator output pin.
6	REMIN	I	Signal input pin from external remote control	55	RZCD	O	CD indicator output pin.
7	Z2RIN	I	Signal input pin from remote control of zone 2. Not used.	58	UPSPL	O	Upsampling frequency indicator control output pin
8	VSS		Power supply pin	58	PURE	O	Pure audio indicator output pin.
10	VDDA	O	Serial data output pin for video function switch IC	59	RZDVD	O	DVD indicator output pin.
11	VDCL	O	Serial clock input pin for video function switch IC	60	STBY	O	STANDBY/RECEIVED indicator output pin.
12	~RESET	I	System reset input.	62	VCC		Power supply pin. Apply 5V.
13	XOUT	O	Connect the ceramic oscillator 16MHz.	63	VDST	O	Strobe output pin for video switch control output pin
14	VSS		Ground pin	64	VSS		Power supply pin. Connect to ground.
15	XIN	I	Connect the ceramic oscillator 16MHz.	71	HPDET	I	Headphone detection input pin.
16	VCC		Power supply pin. Apply 5V.	72	SYSOUT	O	System code output pin
20	VSYNC	I	Vertical synchronizing signal input pin.	75	SYSIN	I	System code input pin.
24	PURE	O	Pure audio relay control output pin. Not used.	76	AREA1	I	Initializing input pin for band area.
29	232RX	I	Receiving input pin of RS232C. Not used.	77	AREA2	I	Initializing input pin for band area.
30	232TX	O	Sending output pin of RS232C. Not used.	79	SUBPOFF	I	Power failure intercept input pin between microprocessors.
31	TXD1	O	Rewrite sending output pin to flash IC.	80	MAINREQ	I	Request input to communicate data between microprocessors.
32	RXD1	I	Rewrite receiving input pin from flash IC.	82	SYNCDDET	I	External synchronizing detection input pin.
33	CLK1	I	Rewrite clock input pin from flash IC.	84	ISS	I	S video signal detection input pin.
34	RTS1	O	Rewrite response output pin to flash IC.	86	FLRES	O	Reset signal output pin to the FL tube driver IC.
35	SUBSO	O	Data sending output pin to communicate between microprocessors.	89	RDS	I	Initializing input pin for RDS broadcast.
36	MAINSO	I	Data receiving input pin to communicate between microprocessors.	90	AMP	I	Initializing input pin for model
37	MAINCL	I	Clock receiving input pin to communicate between microprocessors.	91	12V	I	Initializing input pin for 12V trigger.
38	SUBREQ	O	Request signal output pin to communicate between microprocessors.	92	NTSC	I	Initializing input terminal for NTSC/PAL.
39	VAJ	I	Pulse signal input terminal A pin from rotary encoder.	93	K3	I	Operation key connection pin.
40	VBJ	I	Pulse signal input terminal B pin from rotary encoder.	94	K2	I	Operation key connection pin.
42	RZV2	O	Video 2 indicator output pin.	95	K1	I	Operation key connection pin.
43	RZV3	O	Video 3 indicator output pin.	96	VSS		Power supply pin for A/D converter.
45	RZV4	O	Video 4 indicator output pin.	97	K0	I	Operation key connection pin.
47	RZV5	O	Video 5 indicator output pin.	98	VREF		Reference voltage input pin for A/D converter.
48	RZV1	O	Video 1 indicator output pin.	99	VCC		Power supply pin for A/D converter. Apply 5V.
49	LEDRED	O	Power supply control output pin for recording indicator.				

# WIRING VIEW 1

This diagram illustrates the wiring connections for the front panel of a radio receiver. It shows the layout of various PC boards and their interconnections via terminals and connectors.

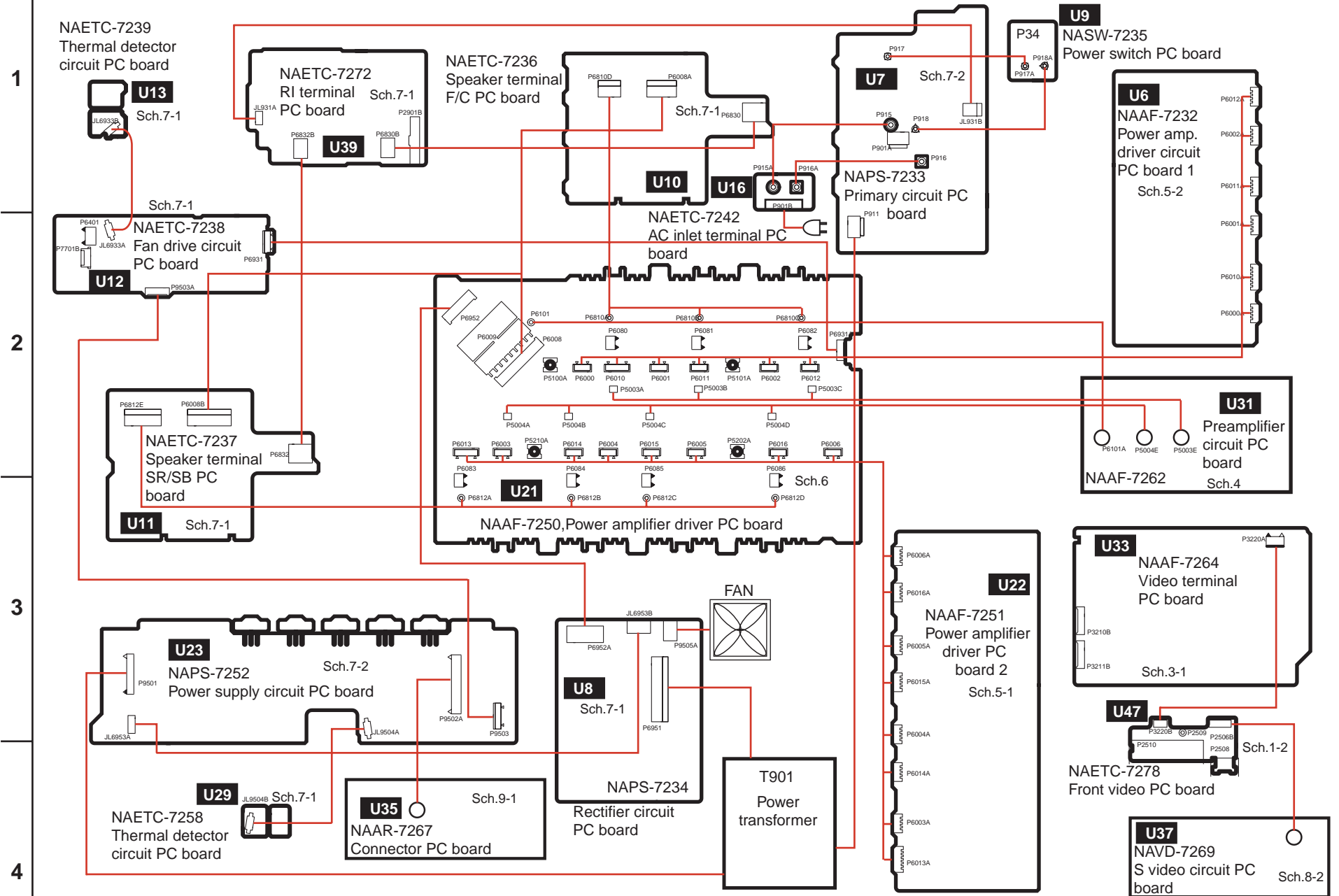
**PC Boards and Schedules:**

- U39:** NAETC-7272 RI terminal PC board (Sch.9-2)
- U33:** NAAF-7264 Video terminal PC board (Sch.3-1)
- U34:** NAETC-7265 Bus PC board (Sch.10)
- U38:** NAVD-7270 Component video terminal PC board (Sch.9-2)
- U47:** NAETC-7278 Front video PC board (Sch.1-2)
- U46:** NAETC-7277 Headphone terminal PC board (Sch.1-1)
- U44:** NADIS-7275 Display circuit PC board (Sch.1)
- U35:** NAAR-7267 Connector PC board (Sch.9-1)
- U32:** NAAF-7263 Audio terminal PC board (Sch.3-2)
- U37:** NAVD-7269 S video circuit PC board (Sch.8-2)
- U36:** NAVD-7268 Composite video circuit PC board (Sch.8-1)
- U51:** Front end (CN1)
- U31:** NAAF-7262 Preamp circuit PC board (Sch.4)
- U1:** NADG-7226 Main circuit PC board (Sch.2)
- U48:** NAETC-7279 Front video 2 PC board (P10)
- U23:** NAPS-7252 Power supply circuit PC board (Sch.7-2)
- U45:** NASW-7276 Volume PC board (Sch.1-2)
- U12:** NAETC-7238 Fan drive circuit PC board (Sch.7-1)
- U21:** NAAF-7250 Power amplifier PC board (Sch.6)

**Terminals and Connectors:**

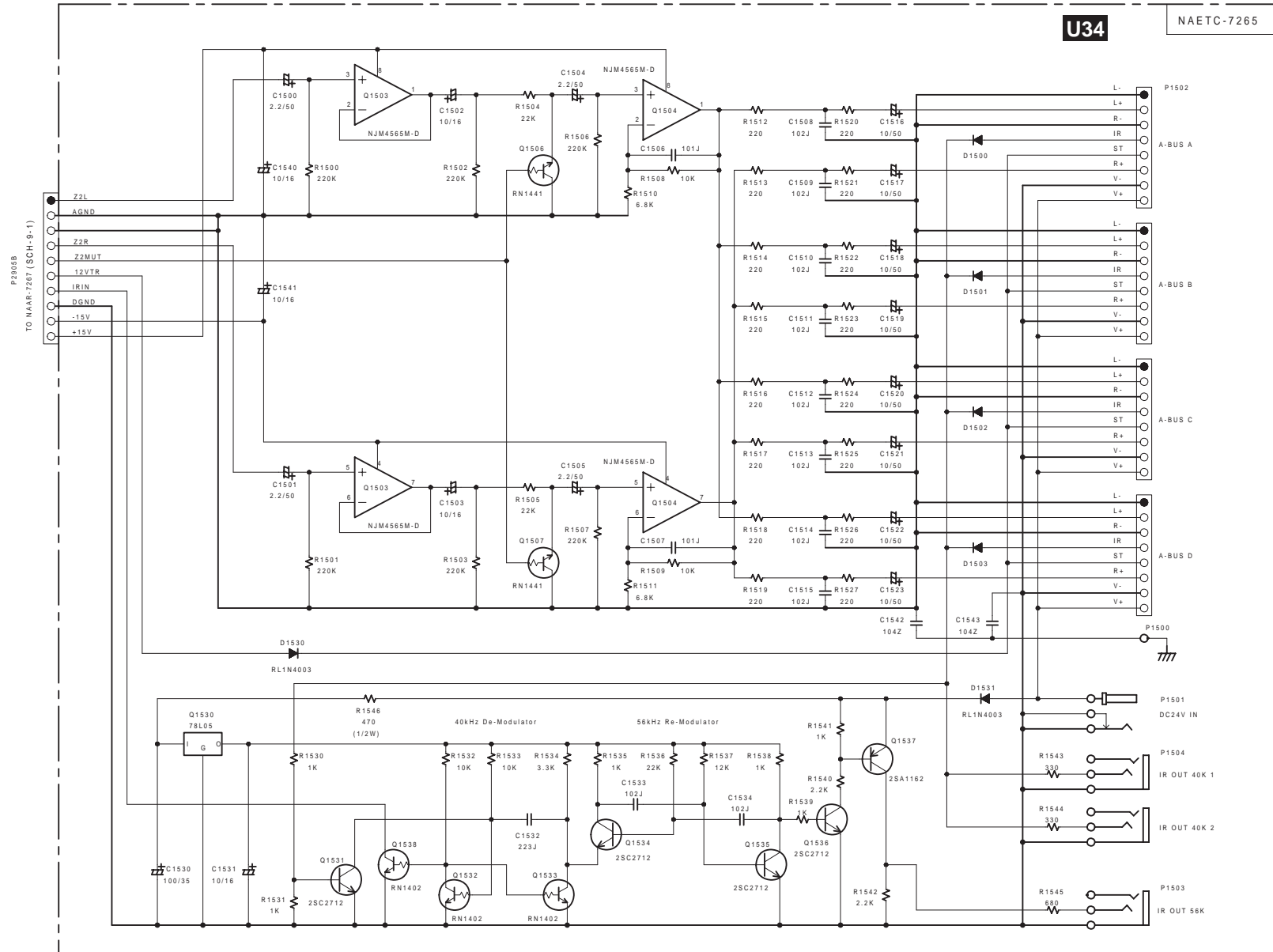
- Terminals:** P2805A, P2705A, P2905A, P2901A, P2906, P2905A, P3210A, P3010A, P4020A, P811A, P4010A, P7705A, P4010A, P4011A, P7703A, P9502, P4012A, P7201B, P7701A, P7702, P102A, P102B, P102C, P102D, P102E, P102F, P102G, P102H, P102I, P102J, P102K, P102L, P102M, P102N, P102O, P102P, P102Q, P102R, P102S, P102T, P102U, P102V, P102W, P102X, P102Y, P102Z, P103A, P103B, P103C, P103D, P103E, P103F, P103G, P103H, P103I, P103J, P103K, P103L, P103M, P103N, P103O, P103P, P103Q, P103R, P103S, P103T, P103U, P103V, P103W, P103X, P103Y, P103Z, P104A, P104B, P104C, P104D, P104E, P104F, P104G, P104H, P104I, P104J, P104K, P104L, P104M, P104N, P104O, P104P, P104Q, P104R, P104S, P104T, P104U, P104V, P104W, P104X, P104Y, P104Z, P105A, P105B, P105C, P105D, P105E, P105F, P105G, P105H, P105I, P105J, P105K, P105L, P105M, P105N, P105O, P105P, P105Q, P105R, P105S, P105T, P105U, P105V, P105W, P105X, P105Y, P105Z, P106A, P106B, P106C, P106D, P106E, P106F, P106G, P106H, P106I, P106J, P106K, P106L, P106M, P106N, P106O, P106P, P106Q, P106R, P106S, P106T, P106U, P106V, P106W, P106X, P106Y, P106Z, P107A, P107B, P107C, P107D, P107E, P107F, P107G, P107H, P107I, P107J, P107K, P107L, P107M, P107N, P107O, P107P, P107Q, P107R, P107S, P107T, P107U, P107V, P107W, P107X, P107Y, P107Z, P108A, P108B, P108C, P108D, P108E, P108F, P108G, P108H, P108I, P108J, P108K, P108L, P108M, P108N, P108O, P108P, P108Q, P108R, P108S, P108T, P108U, P108V, P108W, P108X, P108Y, P108Z, P109A, P109B, P109C, P109D, P109E, P109F, P109G, P109H, P109I, P109J, P109K, P109L, P109M, P109N, P109O, P109P, P109Q, P109R, P109S, P109T, P109U, P109V, P109W, P109X, P109Y, P109Z, P110A, P110B, P110C, P110D, P110E, P110F, P110G, P110H, P110I, P110J, P110K, P110L, P110M, P110N, P110O, P110P, P110Q, P110R, P110S, P110T, P110U, P110V, P110W, P110X, P110Y, P110Z, P111A, P111B, P111C, P111D, P111E, P111F, P111G, P111H, P111I, P111J, P111K, P111L, P111M, P111N, P111O, P111P, P111Q, P111R, P111S, P111T, P111U, P111V, P111W, P111X, P111Y, P111Z, P112A, P112B, P112C, P112D, P112E, P112F, P112G, P112H, P112I, P112J, P112K, P112L, P112M, P112N, P112O, P112P, P112Q, P112R, P112S, P112T, P112U, P112V, P112W, P112X, P112Y, P112Z, P113A, P113B, P113C, P113D, P113E, P113F, P113G, P113H, P113I, P113J, P113K, P113L, P113M, P113N, P113O, P113P, P113Q, P113R, P113S, P113T, P113U, P113V, P113W, P113X, P113Y, P113Z, P114A, P114B, P114C, P114D, P114E, P114F, P114G, P114H, P114I, P114J, P114K, P114L, P114M, P114N, P114O, P114P, P114Q, P114R, P114S, P114T, P114U, P114V, P114W, P114X, P114Y, P114Z, P115A, P115B, P115C, P115D, P115E, P115F, P115G, P115H, P115I, P115J, P115K, P115L, P115M, P115N, P115O, P115P, P115Q, P115R, P115S, P115T, P115U, P115V, P115W, P115X, P115Y, P115Z, P116A, P116B, P116C, P116D, P116E, P116F, P116G, P116H, P116I, P116J, P116K, P116L, P116M, P116N, P116O, P116P, P116Q, P116R, P116S, P116T, P116U, P116V, P116W, P116X, P116Y, P116Z, P117A, P117B, P117C, P117D, P117E, P117F, P117G, P117H, P117I, P117J, P117K, P117L, P117M, P117N, P117O, P117P, P117Q, P117R, P117S, P117T, P117U, P117V, P117W, P117X, P117Y, P117Z, P118A, P118B, P118C, P118D, P118E, P118F, P118G, P118H, P118I, P118J, P118K, P118L, P118M, P118N, P118O, P118P, P118Q, P118R, P118S, P118T, P118U, P118V, P118W, P118X, P118Y, P118Z, P119A, P119B, P119C, P119D, P119E, P119F, P119G, P119H, P119I, P119J, P119K, P119L, P119M, P119N, P119O, P119P, P119Q, P119R, P119S, P119T, P119U, P119V, P119W, P119X, P119Y, P119Z, P120A, P120B, P120C, P120D, P120E, P120F, P120G, P120H, P120I, P120J, P120K, P120L, P120M, P120N, P120O, P120P, P120Q, P120R, P120S, P120T, P120U, P120V, P120W, P120X, P120Y, P120Z, P121A, P121B, P121C, P121D, P121E, P121F, P121G, P121H, P121I, P121J, P121K, P121L, P121M, P121N, P121O, P121P, P121Q, P121R, P121S, P121T, P121U, P121V, P121W, P121X, P121Y, P121Z, P122A, P122B, P122C, P122D, P122E, P122F, P122G, P122H, P122I, P122J, P122K, P122L, P122M, P122N, P122O, P122P, P122Q, P122R, P122S, P122T, P122U, P122V, P122W, P122X, P122Y, P122Z, P123A, P

## WIRING VIEW 2



# SCHEMATIC DIAGRAM 10

## A-bus section





# SCHEMATIC DIAGRAM 1-1 Display section

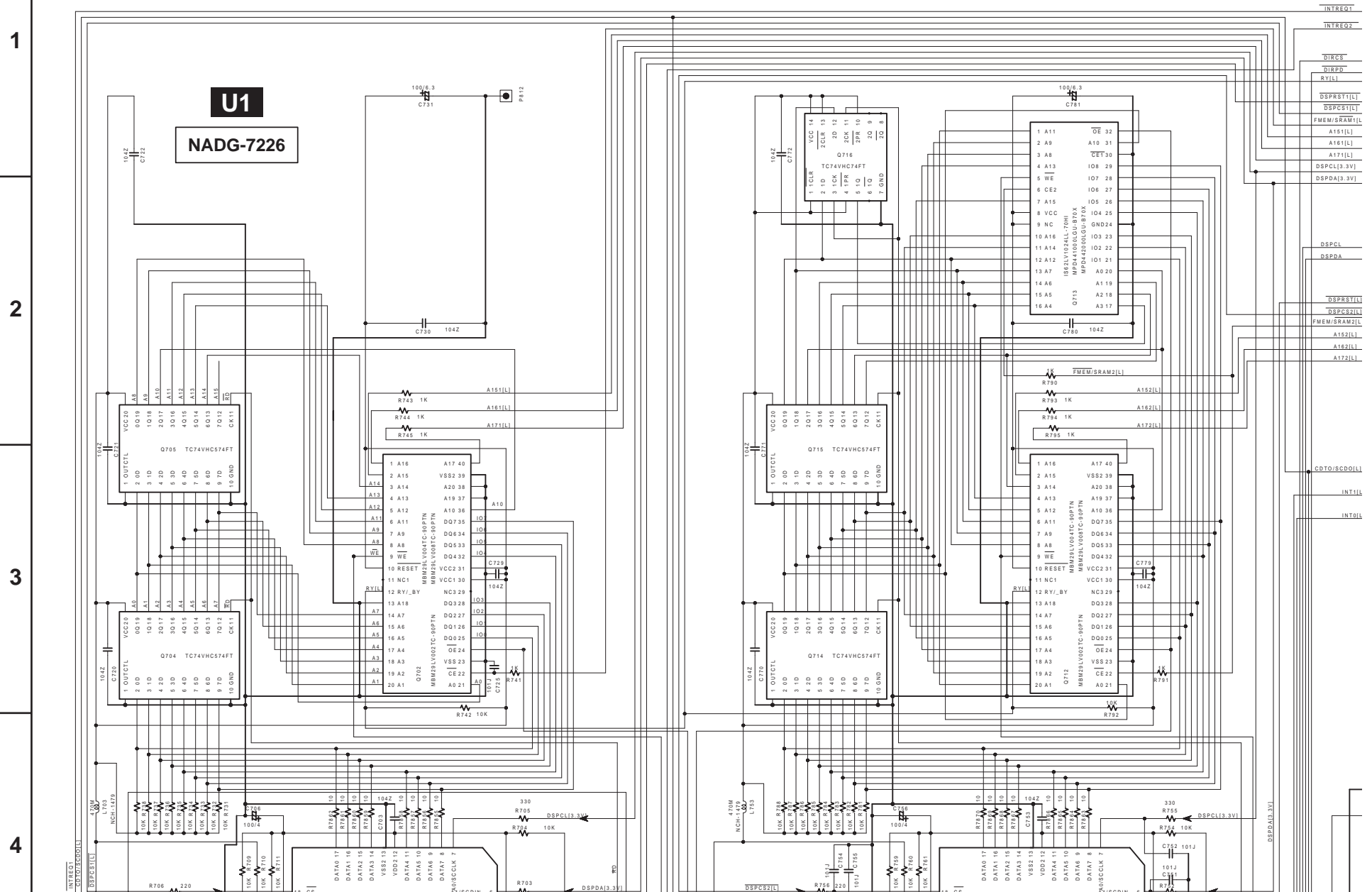
The schematic diagram illustrates the internal circuitry of the display section, organized into five horizontal sections labeled 1 through 5. Section 1 contains components U48 (TORX178A) and U47 (P2508, P2510, P32208). Section 2 features U46 (P7481, P7482, P7483, P7484, P7485, P7486, P7487, P7488, P7489, P7490, P7491, P7492, P7493, P7494, P7495, P7496, P7497, P7498, P7499, P7500, P7501, P7502, P7503, P7504, P7505, P7506, P7507, P7508, P7509, P7510, P7511, P7512, P7513, P7514, P7515, P7516, P7517, P7518, P7519, P7520, P7521, P7522, P7523, P7524, P7525, P7526, P7527, P7528, P7529, P7530, P7531, P7532, P7533, P7534, P7535, P7536, P7537, P7538, P7539, P7540, P7541, P7542, P7543, P7544, P7545, P7546, P7547, P7548, P7549, P7550, P7551, P7552, P7553, P7554, P7555, P7556, P7557, P7558, P7559, P7560, P7561, P7562, P7563, P7564, P7565, P7566, P7567, P7568, P7569, P7570, P7571, P7572, P7573, P7574, P7575, P7576, P7577, P7578, P7579, P7580, P7581, P7582, P7583, P7584, P7585, P7586, P7587, P7588, P7589, P7590, P7591, P7592, P7593, P7594, P7595, P7596, P7597, P7598, P7599, P7600, P7601, P7602, P7603, P7604, P7605, P7606, P7607, P7608, P7609, P7610, P7611, P7612, P7613, P7614, P7615, P7616, P7617, P7618, P7619, P7620, P7621, P7622, P7623, P7624, P7625, P7626, P7627, P7628, P7629, P7630, P7631, P7632, P7633, P7634, P7635, P7636, P7637, P7638, P7639, P7640, P7641, P7642, P7643, P7644, P7645, P7646, P7647, P7648, P7649, P7650, P7651, P7652, P7653, P7654, P7655, P7656, P7657, P7658, P7659, P7660, P7661, P7662, P7663, P7664, P7665, P7666, P7667, P7668, P7669, P7670, P7671, P7672, P7673, P7674, P7675, P7676, P7677, P7678, P7679, P7680, P7681, P7682, P7683, P7684, P7685, P7686, P7687, P7688, P7689, P7690, P7691, P7692, P7693, P7694, P7695, P7696, P7697, P7698, P7699, P7700, P7701, P7702, P7703, P7704, P7705, P7706, P7707, P7708, P7709, P7710, P7711, P7712, P7713, P7714, P7715, P7716, P7717, P7718, P7719, P7720, P7721, P7722, P7723, P7724, P7725, P7726, P7727, P7728, P7729, P7730, P7731, P7732, P7733, P7734, P7735, P7736, P7737, P7738, P7739, P7740, P7741, P7742, P7743, P7744, P7745, P7746, P7747, P7748, P7749, P7750, P7751, P7752, P7753, P7754, P7755, P7756, P7757, P7758, P7759, P7760, P7761, P7762, P7763, P7764, P7765, P7766, P7767, P7768, P7769, P7770, P7771, P7772, P7773, P7774, P7775, P7776, P7777, P7778, P7779, P7780, P7781, P7782, P7783, P7784, P7785, P7786, P7787, P7788, P7789, P7790, P7791, P7792, P7793, P7794, P7795, P7796, P7797, P7798, P7799, P7800, P7801, P7802, P7803, P7804, P7805, P7806, P7807, P7808, P7809, P7810, P7811, P7812, P7813, P7814, P7815, P7816, P7817, P7818, P7819, P7820, P7821, P7822, P7823, P7824, P7825, P7826, P7827, P7828, P7829, P7830, P7831, P7832, P7833, P7834, P7835, P7836, P7837, P7838, P7839, P7840, P7841, P7842, P7843, P7844, P7845, P7846, P7847, P7848, P7849, P7850, P7851, P7852, P7853, P7854, P7855, P7856, P7857, P7858, P7859, P7860, P7861, P7862, P7863, P7864, P7865, P7866, P7867, P7868, P7869, P7870, P7871, P7872, P7873, P7874, P7875, P7876, P7877, P7878, P7879, P7880, P7881, P7882, P7883, P7884, P7885, P7886, P7887, P7888, P7889, P7890, P7891, P7892, P7893, P7894, P7895, P7896, P7897, P7898, P7899, P7900, P7901, P7902, P7903, P7904, P7905, P7906, P7907, P7908, P7909, P7910, P7911, P7912, P7913, P7914, P7915, P7916, P7917, P7918, P7919, P7920, P7921, P7922, P7923, P7924, P7925, P7926, P7927, P7928, P7929, P7930, P7931, P7932, P7933, P7934, P7935, P7936, P7937, P7938, P7939, P7940, P7941, P7942, P7943, P7944, P7945, P7946, P7947, P7948, P7949, P7950, P7951, P7952, P7953, P7954, P7955, P7956, P7957, P7958, P7959, P7960, P7961, P7962, P7963, P7964, P7965, P7966, P7967, P7968, P7969, P7970, P7971, P7972, P7973, P7974, P7975, P7976, P7977, P7978, P7979, P7980, P7981, P7982, P7983, P7984, P7985, P7986, P7987, P7988, P7989, P7990, P7991, P7992, P7993, P7994, P7995, P7996, P7997, P7998, P7999, P8000, P8001, P8002, P8003, P8004, P8005, P8006, P8007, P8008, P8009, P8010, P8011, P8012, P8013, P8014, P8015, P8016, P8017, P8018, P8019, P8020, P8021, P8022, P8023, P8024, P8025, P8026, P8027, P8028, P8029, P8030, P8031, P8032, P8033, P8034, P8035, P8036, P8037, P8038, P8039, P8040, P8041, P8042, P8043, P8044, P8045, P8046, P8047, P8048, P8049, P8050, P8051, P8052, P8053, P8054, P8055, P8056, P8057, P8058, P8059, P8060, P8061, P8062, P8063, P8064, P8065, P8066, P8067, P8068, P8069, P8070, P8071, P8072, P8073, P8074, P8075, P8076, P8077, P8078, P8079, P8080, P8081, P8082, P8083, P8084, P8085, P8086, P8087, P8088, P8089, P8090, P8091, P8092, P8093, P8094, P8095, P8096, P8097, P8098, P8099, P8100, P8101, P8102, P8103, P8104, P8105, P8106, P8107, P8108, P8109, P8110, P8111, P8112, P8113, P8114, P8115, P8116, P8117, P8118, P8119, P8120, P8121, P8122, P8123, P8124, P8125, P8126, P8127, P8128, P8129, P8130, P8131, P8132, P8133, P8134, P8135, P8136, P8137, P8138, P8

NADIS-7275

1



## SCHEMATIC DIAGRAM 2-1 DSP section



## 4



1



**NADG-7226**

## 4



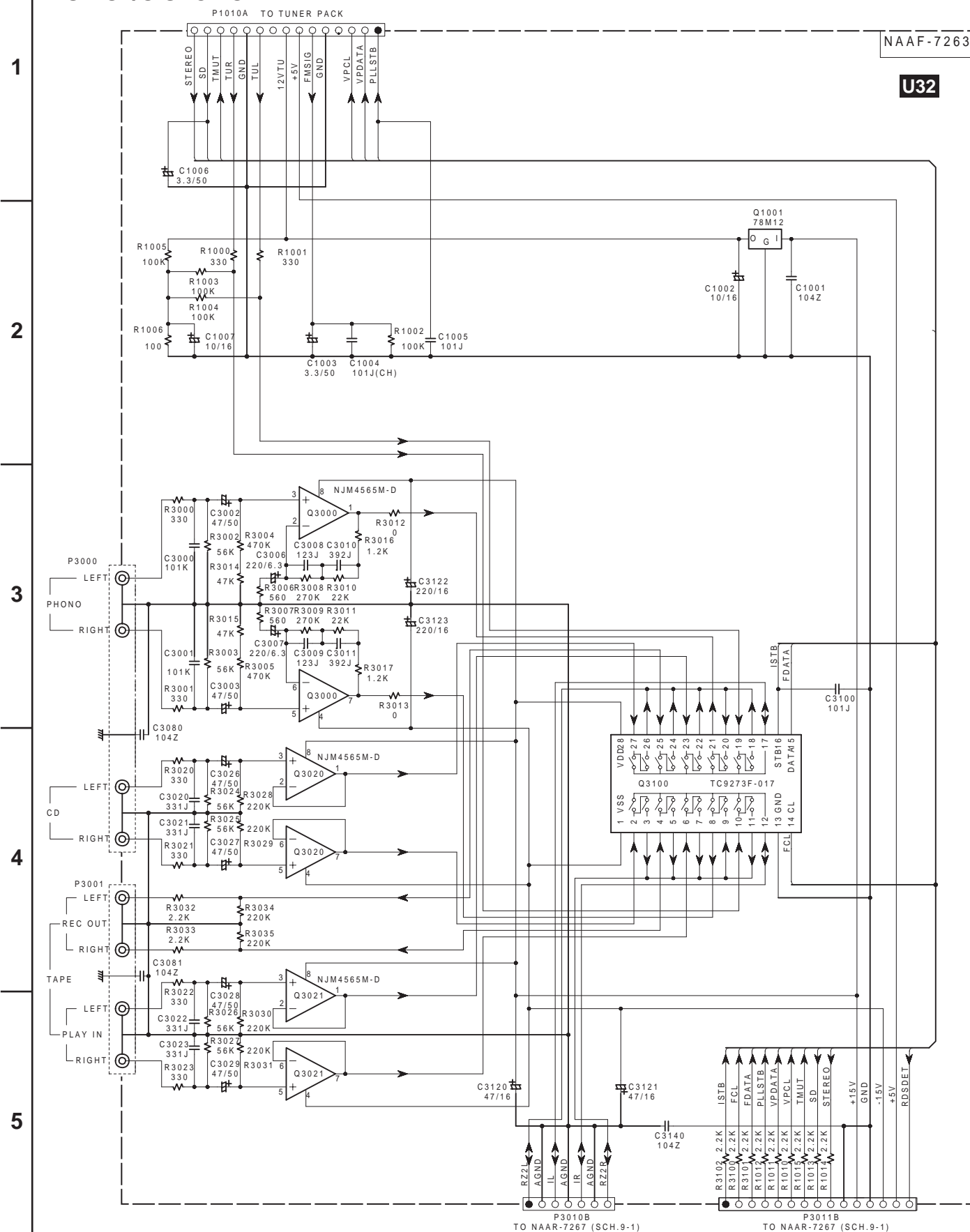


P3211B  
TO NAAR-7267 (SCH.9-1)

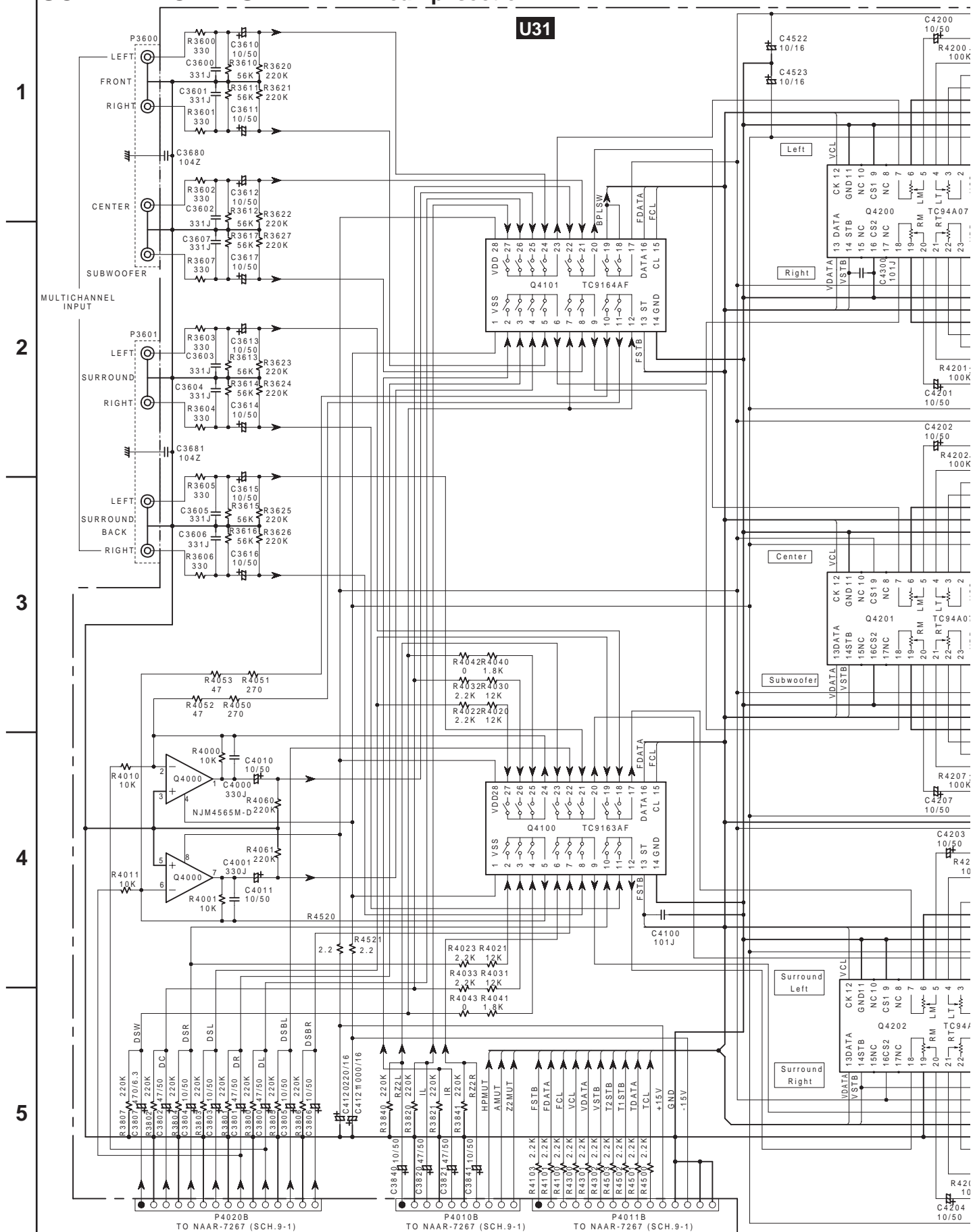


# SCHEMATIC DIAGRAM 3-2

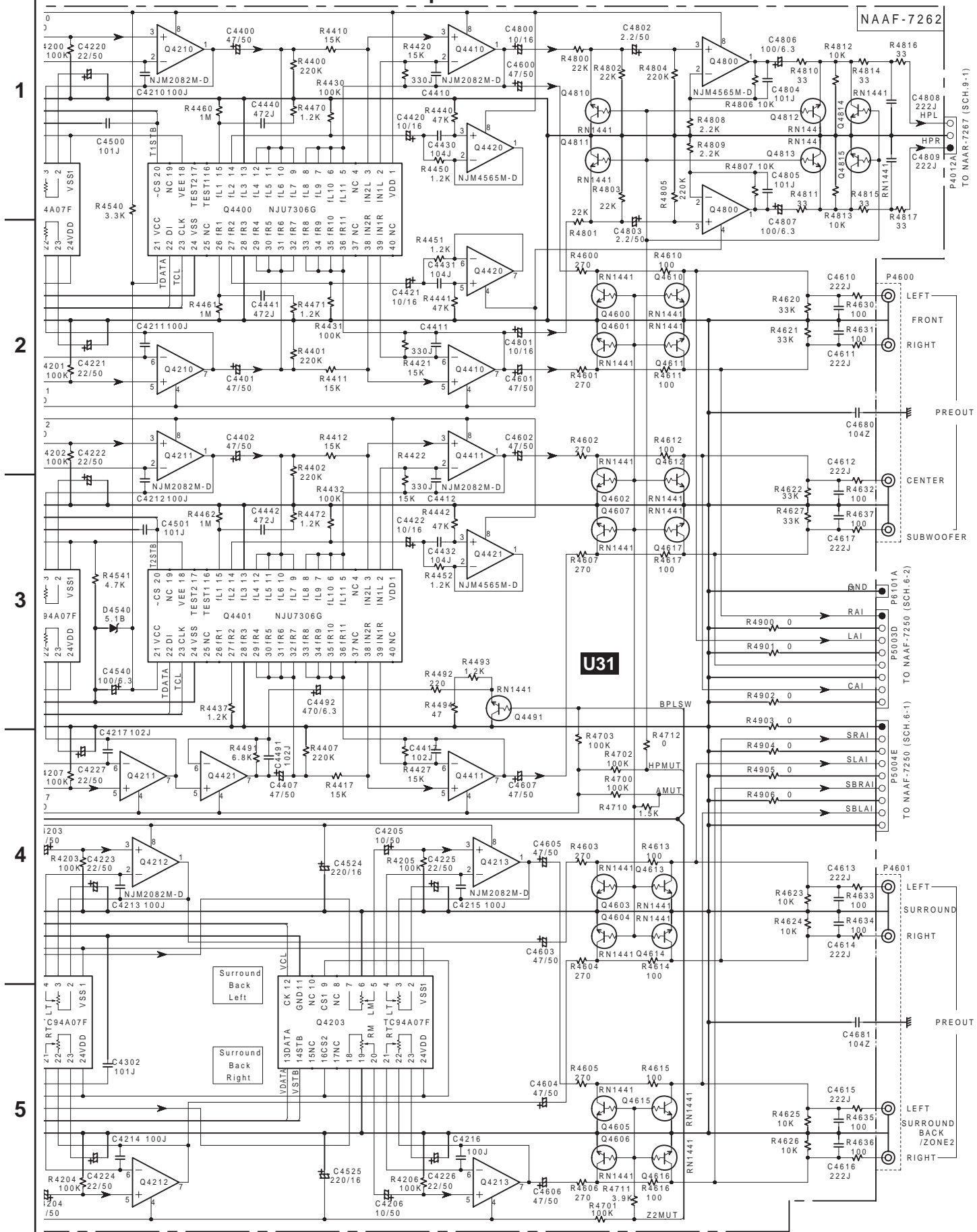
## AUDIO I/O SECTION

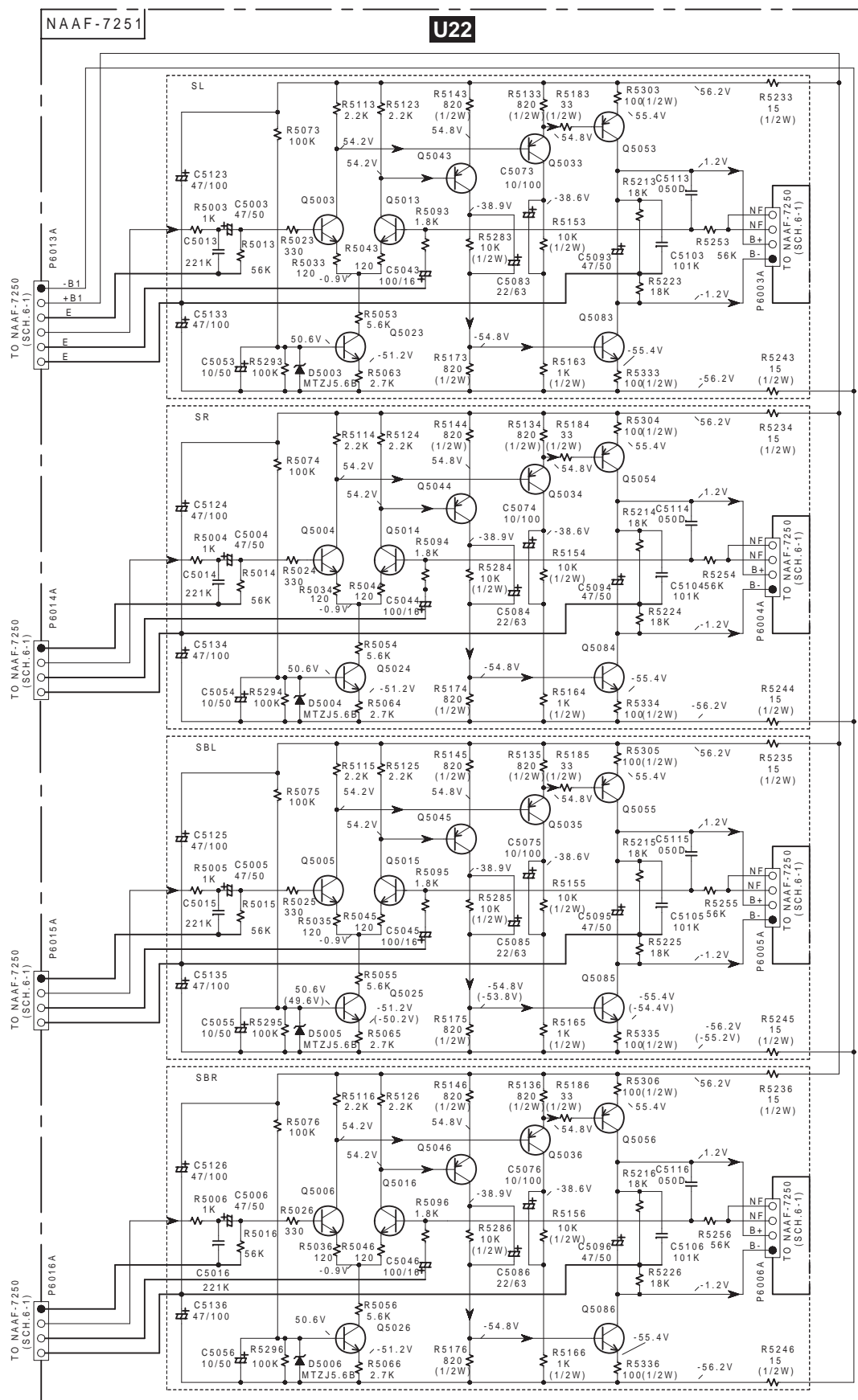


A	B
<b>SCHEMATIC DIAGRAM 4-1</b> Preamp. section	



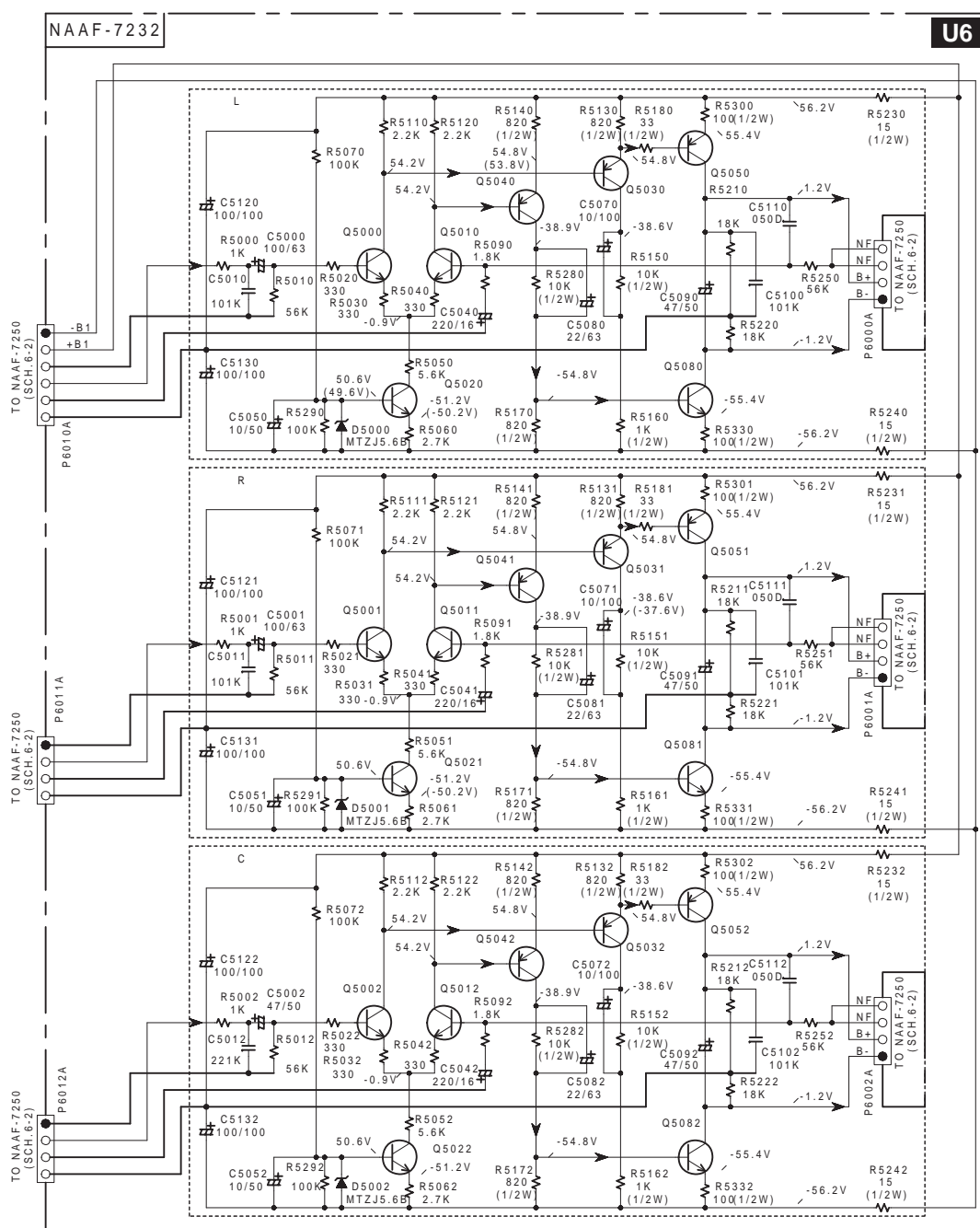
## SCHEMATIC DIAGRAM 4-2 Preamp. section





# SCHEMATIC DIAGRAM 5-2

## Power amp.section



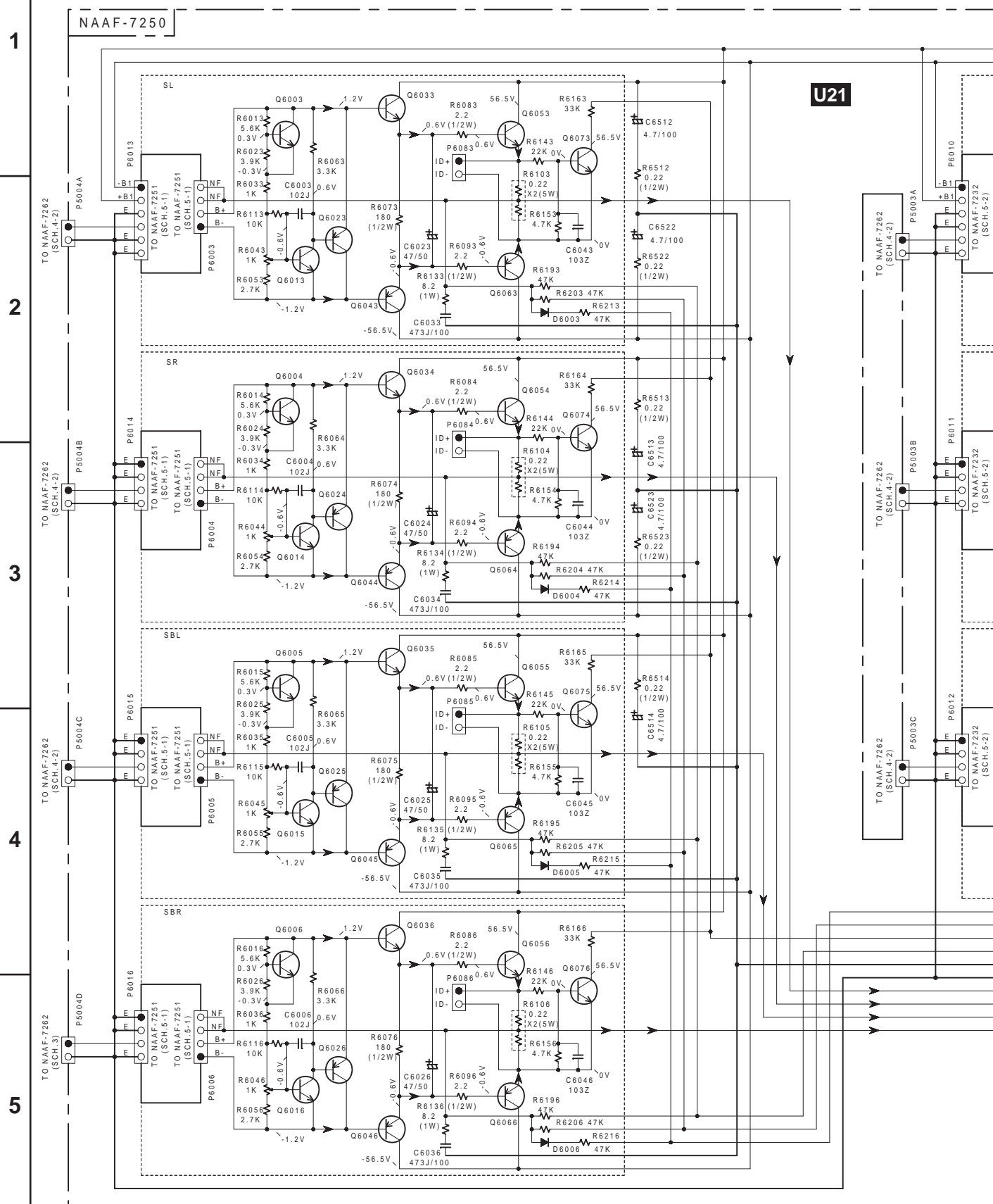
### SEMICONDUCTORS

NO.	
Q5000-06,5010-16	KTC3200-BL OR 2SC1775A-E,F OR 2SC1845-E
Q5020-26	KTC3200-BL OR 2SC1775A-E,F OR 2SC1845-E
Q5030-36,5040-46,5050-56,5070-76	KTA1024-Y,O OR 2SA949-Y,O
Q5060-66,5080-86	KTC3206-Y,O OR 2SC2229-Y,O

### NOTE

- THE COMPONENTS IDENTIFIED BY MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE (MEASURED WITH VOLTMETER) IS DC VOLTAGE (NO INPUT SIGNAL).
- ELECTROLYTIC CAPACITORS ARE IN  $\mu$ F/W.
- ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.
- EX) 030-3pF 330-33pF 331 330pF 333-0.033 $\mu$ F
- ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
- THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
- EX) PRINTING SIDE
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

## Power amplifier section 2

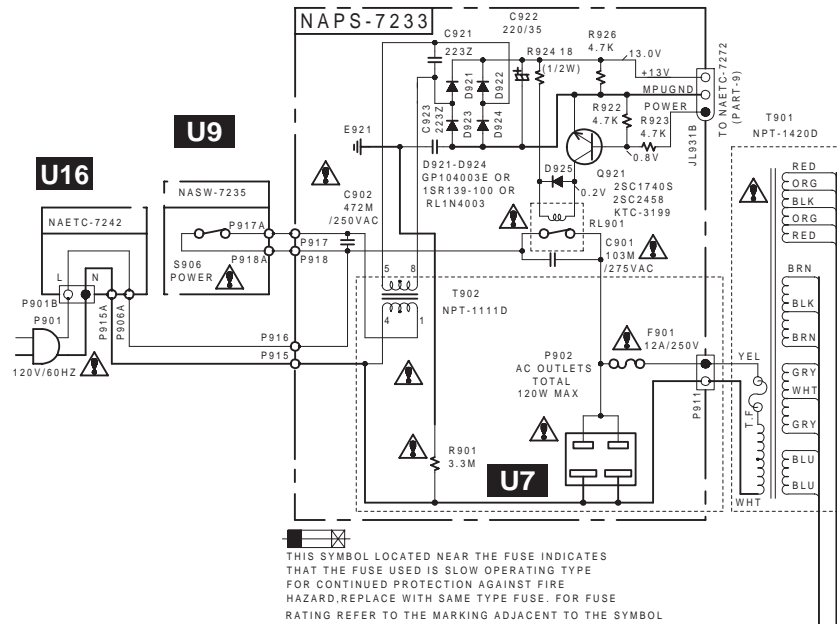




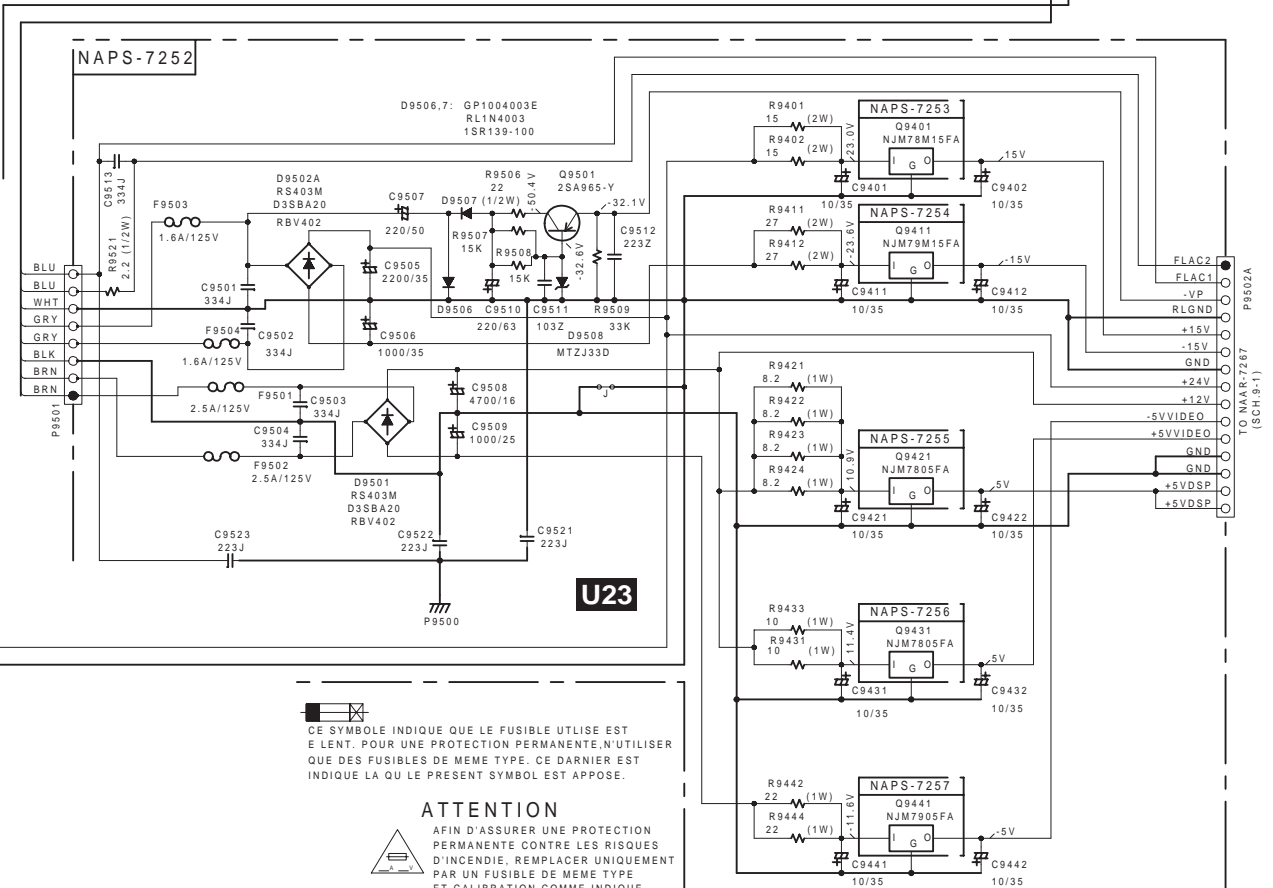


# SCHEMATIC DIAGRAM 7-2

## Power supply section



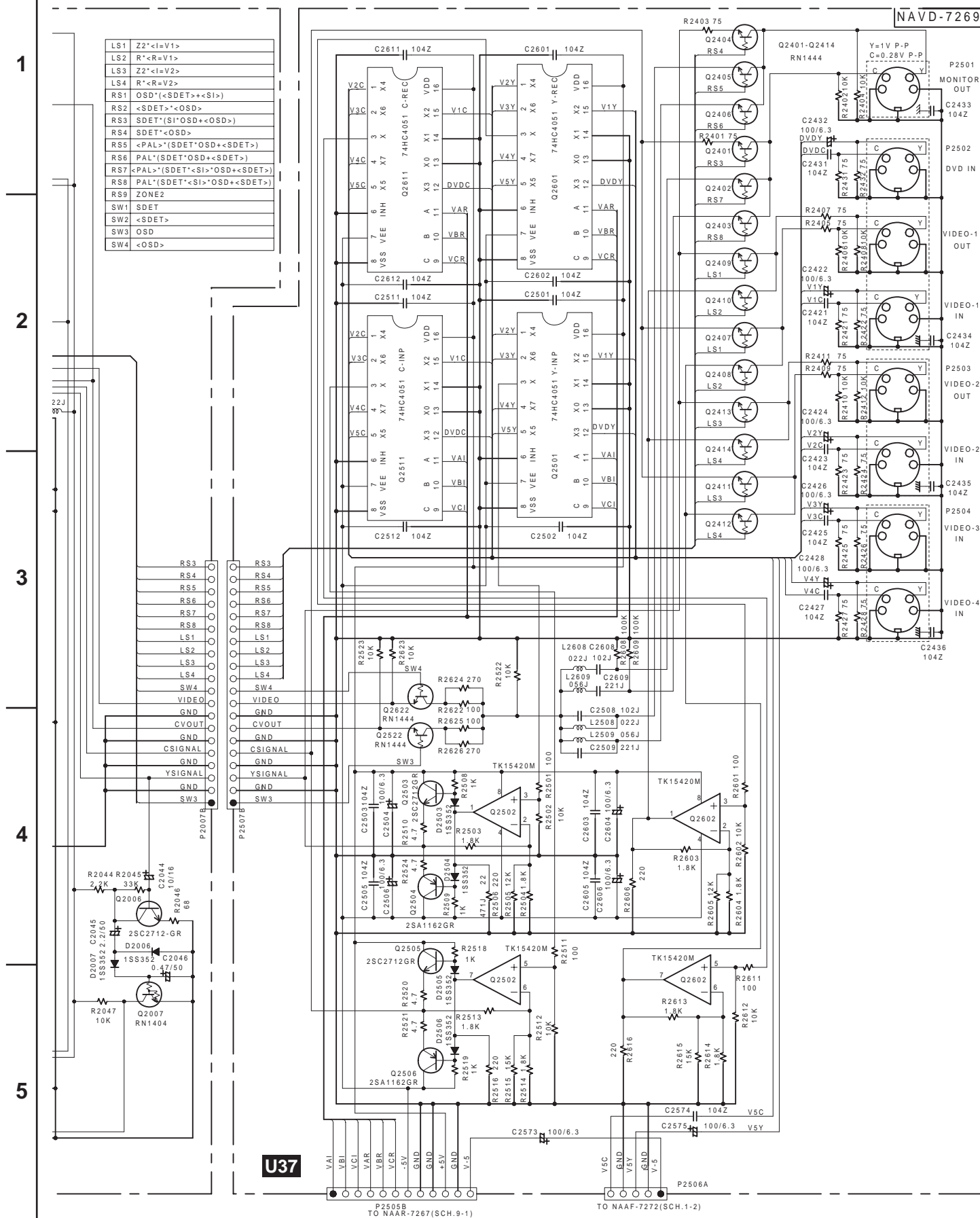
CAUTION  
FOR CONTINUED PROTECTION  
AGAINST FIRE HAZARD, REPLACE  
ONLY WITH FUSE OF SAME TYPE  
AND RATING INDICATED.



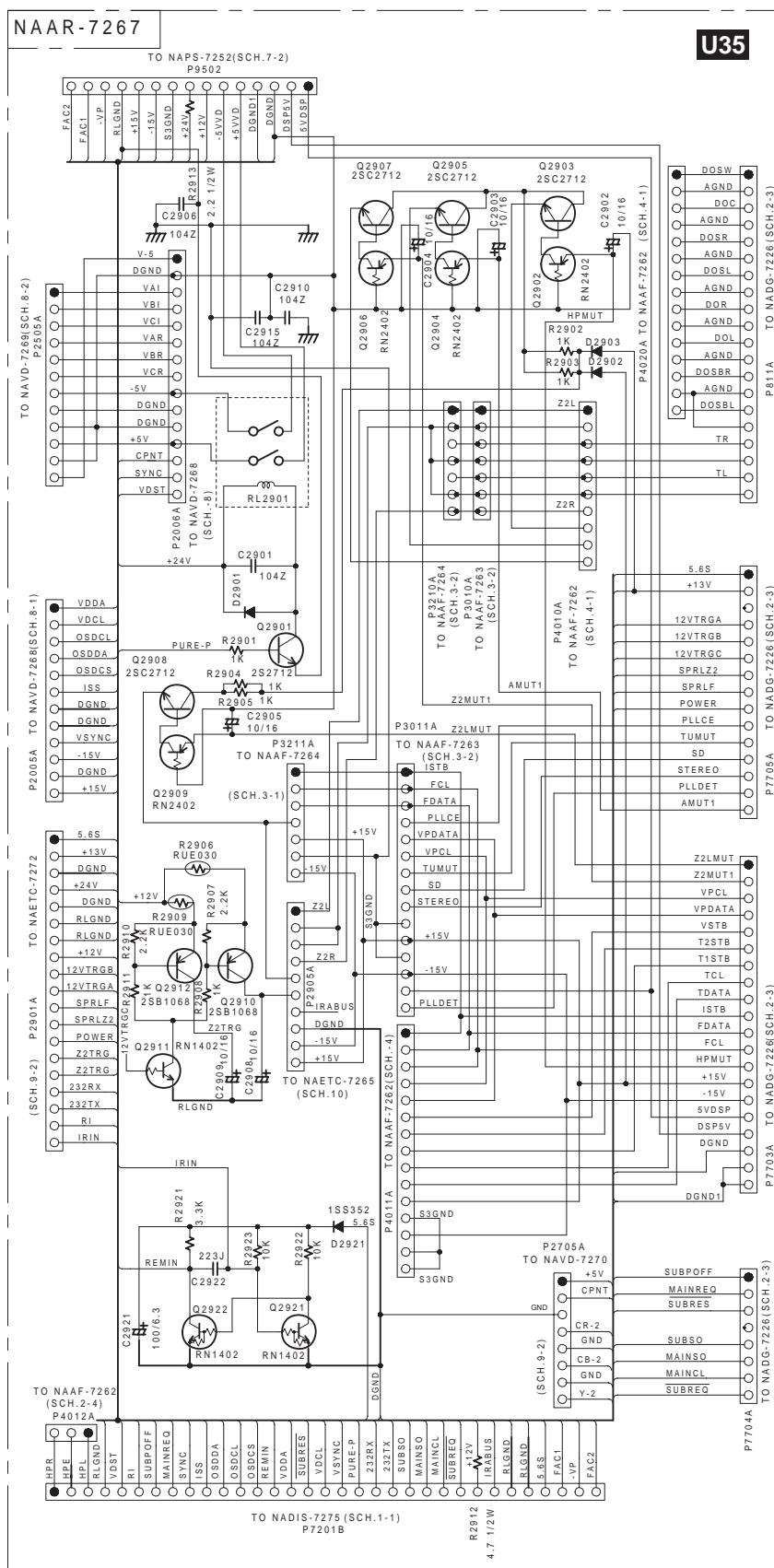


## Video section

## Video section

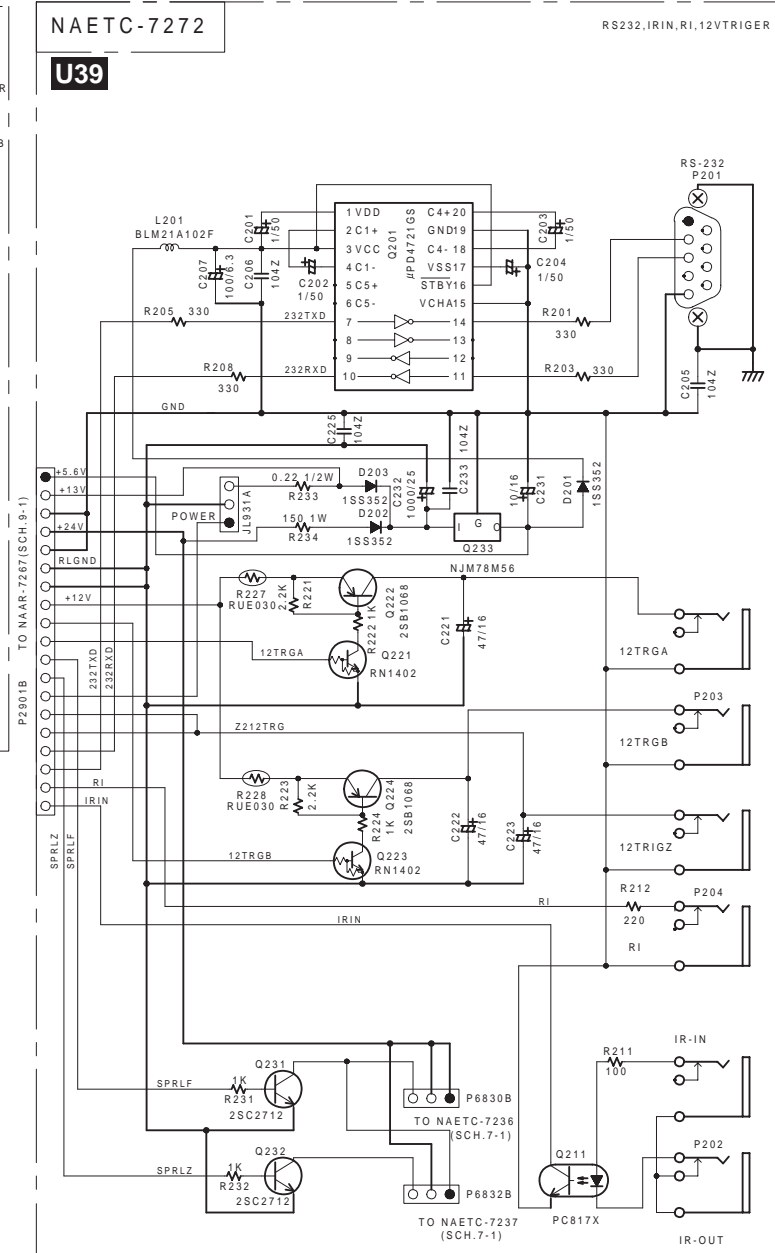
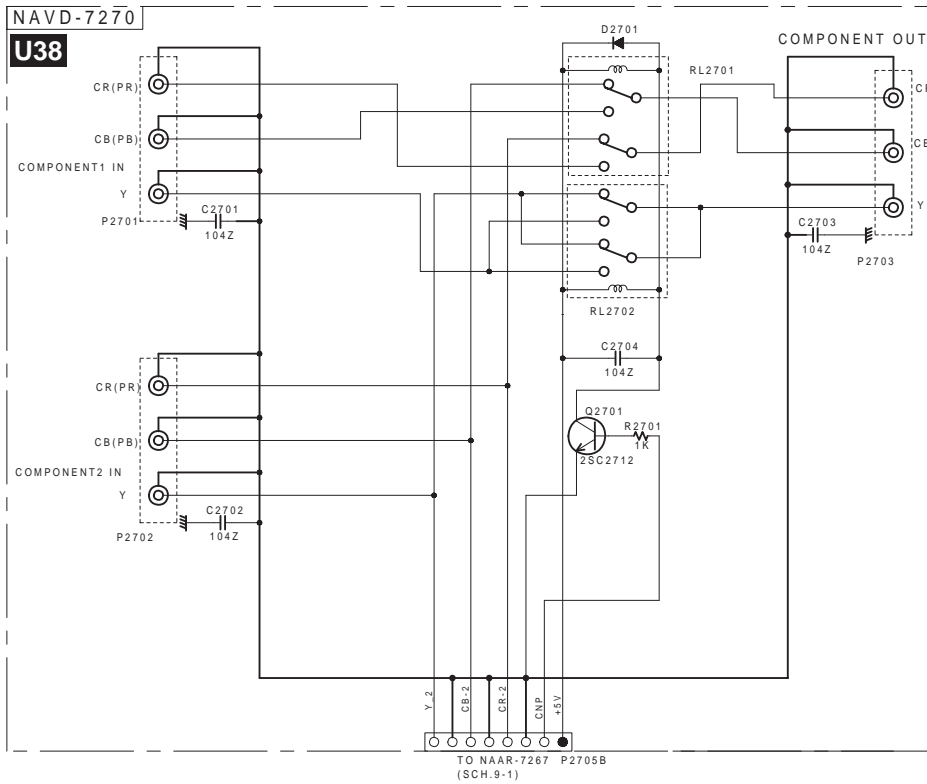


## Mother section



# SCHEMATIC DIAGRAM 9-2

## Componet video and RS-232C sections



# PRINTED CIRCUIT BOARD-PARTS LIST 1

## MAIN CIRCUIT PC BOARD (NADG-7226-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q100-Q102	22241448R2	NJM4580M-D
Q103	22241522R2	AK4528VF
Q104	22241633R3	AK4114VQ
Q105	222740046R2TO	TC74HCU04F
Q701	22241731R9	CS493002-CL(PL2/ES/NEO)
Q702,Q712	22241458R3, 22241457R3 or 22241530R3	MBM29LV002TC-90PTN, MBM29LV004TC-90PTN or MBM29LV008TA-90PTN
Q704,Q705	22274574ER2TO	TC74VHC574FT
Q707	22240935R2	TC7WU04FU
Q708	22278025DR2NE	MPC2925T
Q709	22278033DR2NE	MPC2933T
Q711	22241456R9	CS493002-CL
Q713	22241517R3, 22241459R3 or 22241742R2	MPD441000LGU-B70X, MPD442000LGU-B70X or IS62LV1024LL-70H
Q714,Q715	22274574ER2TO	TC74VHC574FT
Q716	22274074ER2TO	TC74VHC74FT
Q717,Q718	22274541ER2TO	TC74VHC541FT
Q719	222740077R2TO	TC74HCT7007AF
Q7701	22241681R3 or 22241512	M30624MGA-358FP or M30624FGAFP
Q801	22241521R3	AK4356VQ
Q802-Q805	22241449R2, 22241409R2 or 22241472R2	NJM5532M-D, BA15532F or NJM2114M-D
	<b>Transistor</b>	
Q7702	2216210R2 or 2214490R2	KRC104S or RN1404
	<b>Photo couplers</b>	
U101,U102	24120094	TOTX179
U103-U106	24120095	TORX179
	<b>Diodes</b>	
D101-D108	223234R2 or	1SS352 or
D7701-D7705	223269R2	1SS355
D7706	224490620R2 or 224550620R2	UDZ6,2B or UDZS6,2B
	<b>Oscillators</b>	
X101	3010331R2	HC-49/U03C24,576MHz,Crystal
X701	3010324R2	CSTCV12,2MTJ0C4,Ceramic
X7701	3010329R2	CSTCV16,00MXJ0C,Ceramic
	<b>Coils</b>	
L101,L102	231237M022R2	NCH-1471
L103,L104	231237K470R2	NCH-1479
L105	231237M022R2	NCH-1471
L106,L107	230958R1	BK1608LM182-T
L108,L109	231237M022R2	NCH-1471
L701,L702	231237M022R2	NCH-1471
L703,L707	231237K470R2	NCH-1479
L704	231237M022R2	NCH-1471
L705	230958R1	BK1608LM182-T
L751,L752	231237M022R2	NCH-1471
L753	231237K470R2	NCH-1479
L7701	231237K220R2	NCH-1477
L801,L802	231237M022R2	NCH-1471
	<b>Capacitors</b>	
C105	3567A4709R2	47uF,4V,Elect.
C110	356724709R2	47uF,6,3V,Elect.
C116,C119	356723319R2	330uF,6,3V,Elect.
C131,C139	356724709R2	47uF,6,3V,Elect.
C140	356741009R2	10uF,16V,Elect.
C143,C148	356724709R2	47uF,6,3V,Elect.
C150	356784799R2	0,47uF,50V,Elect.
C152,C153	356741009R2	10uF,16V,Elect.
C706,C716	3567A1019R2	100uF,4V,Elect.
C715	356724709R2	47uF,6,3V,Elect.
C731	356721019R2	100uF,6,3V,Elect.
C735,C736	356724709R2	47uF,6,3V,Elect.
C756,C766	3567A1019R2	100uF,4V,Elect.
C7701	3000078	DX-5R5L104,Super for memory


CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Capacitors</b>	
C7703-C7705	356721019R2	100uF,6,3V,Elect.
C7711	356780109R2	1uF,50V,Elect.
C781	356721019R2	100uF,6,3V,Elect.
C802,C807	356723319R2	330uF,6,3V,Elect.
C847-C850	356744709R2	47uF,16V,Elect.
C854-C857	356744709R2	47uF,16V,Elect.
	<b>Terminal</b>	
P101	25045624	NPJ-3PDO431
	<b>Sockets</b>	
P7701A	25052277R2	NSCT-5P2174
P7703B	25051241	NSCT-20P1031
P7704B	25051233	NSCT-8P1023
P7705B	25051240	NSCT-15P1030
P811B	25051241	NSCT-20P1031
	<b>Plug</b>	
P102AA	25055133	NPLG-3P117
	<b>Cushion</b>	
Q801A	28141445	(DAC)

## F/C DRIVER CIRCUIT PC BOARD (NAAF-7232-1G)












CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q5000-Q5002	2215896,	* KTC3200-BL,
Q5010-Q5012	2210755,	* 2SC1775A-E,
Q5020-Q5022	2210756 or 2211733	* 2SC1775A-F or * 2SC1845-E
Q5030-Q5032	2215844,	KTA1024-Y,
Q5040-Q5042	2211353,	2SA949-O,
Q5050-Q5052	2211354 or 2215843	2SA949-Y or KTA1024-O
Q5080-Q5082	2215854, 2211633, 2211634 or 2215853	KTC3206-Y, 2SC2229-O, 2SC2229-Y or KTC3206-O
	<b>Diodes</b>	
D5000-D5002	224470562	MTZJ5,6B
	<b>Capacitors</b>	
C5000,C5001	393371017	100uF,63V,Elect.
C5002	393384707	47uF,50V,Elect.
C5010,C5011	374721015	100pF+/-10%,50V,Plastic
C5012	374722215	220pF+/-10%,50V,Plastic
C5040-C5042	393342217	220uF,16V,Elect.
C5050-C5052	354781009	10uF,50V,Elect.
C5070-C5072	354791009	10uF,100V,Elect.
C5080-C5082	354772209	22uF,63V,Elect.
C5090-C5092	354784709	47uF,50V,Elect.
C5100-C5102	374721015	100pF+/-10%,50V,Plastic
C5120-C5122	354791019	100uF,100V,Elect.
C5130-C5132	354791019	100uF,100V,Elect.
	<b>Resistors</b>	
R5130-R5132	443528214	820ohm+/-5%,1/2W,Metal oxide
R5140-R5142	443528214	820ohm+/-5%,1/2W,Metal oxide
R5150-R5152	443521034	10kohm+/-5%,1/2W,Metal oxide
R5160-R5162	443521024	1kohm+/-5%,1/2W,Metal oxide
R5170-R5172	443528214	820ohm+/-5%,1/2W,Metal oxide
R5180-R5182	443523304	33ohm+/-5%,1/2W,Metal oxide
R5230-R5232	443521504	15ohm+/-5%,1/2W,Metal oxide
R5240-R5242	443521504	15ohm+/-5%,1/2W,Metal oxide
R5280-R5282	443521034	10kohm+/-5%,1/2W,Metal oxide
R5300-R5302	443521014	100ohm+/-5%,1/2W,Metal oxide
R5330-R5332	443521014	100ohm+/-5%,1/2W,Metal oxide
	<b>Terminals</b>	
P5100,P5101	25060302	NTM-1P233(M1969)
	<b>Sockets</b>	
P6000A-P6002A	25052287	NSCT-4P2184
P6010A	25052289	NSCT-6P2186
P6011A,P6012A	25052287	NSCT-4P2184

CAUTION: Replacement for transistor of mark \*, if necessary must be made from the same beta group (HFE) as the original type.

# PRINTED CIRCUIT BOARD-PARTS LIST 2

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

## PRIMARY CIRCUIT PC BOARD (NAPS-7233-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistor</b>	
Q921	2215864, 2212115, 2213284 or 2213285	KTC3199-GR, 2SC2458-GR, 2SC1740S-R or 2SC1740S-S
	<b>Diodes</b>	
D921-D924	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D925	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	<b>Power transformer</b>	
T901	2300670A	 NPT-1111D
	<b>Capacitors</b>	
C901	3500196S	 RE275V-103M
C902	3300030	 DE1307E472M-KH
C922	354762219	220uF,35V,Elect.
	<b>Resistors</b>	
R901	431533355	 RC1/2GFKUL-3,3M
R924	443521804	18ohm+/-5%,1/2W,Metal oxide
	<b>Relay</b>	
RL901	25065584, 25065516 or 25065588	 NRL-1P10A-DC12-140,  NRL-1P10A-DC12-097 or  NRL-1P10A-DC12-143
	<b>Fuse</b>	
F901	252196	 12A-UL/T-314
	<b>Fuse holders</b>	
F901A,F901B	250113	 SN5051
	<b>Fuse labels</b>	
F901C	29362325	 12A/250V
	<b>Sockets</b>	
JL931B	25050267 25051126	NSCT-3P95 NSCT-4P913
	<b>Plugs</b>	
P902	25051126	 NSCT-4P913
P911	25055675 or 25056028	NPLG-2P631 or NPLG-2P0978

## RECTIFIER CIRCUIT PC BOARD (NAPS-7234-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Diodes</b>	
D6901,D6902	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D6903,D6904	22380309 or 22380044	D15XB60 or RBV-1506
D6906	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	<b>Capacitors</b>	
C6903	374722234	0,022uF+/-5%,50V,Plastic
C6908-C6911	374733344	0,33uF+/-5%,100V,Plastic
C6915,C6916	374733344	0,33uF+/-5%,100V,Plastic
	<b>Relays</b>	
RL6901,RL6902	25065584, 25065516 or 25065588	NRL-1P10A-DC12-140, NRL-1P10A-DC12-097 or NRL-1P10A-DC12-143
	<b>Fuses</b>	
F6901,F6902	252196	12A-UL/T-314
	<b>Fuse holders</b>	
F6901A,F6901B	250113	SN5051
F6902A,F6902B	250113	SN5051
	<b>Fuse labels</b>	
F6901C	29362325	12A/250V
	<b>Plugs</b>	
P6401	25055042	NPLG-3P32
P6951	25055172	NPLG-9P156
P6952A	25055168	NPLG-5P152
P9505A	25055600	NPLG-2P568

## POWER SWITCH PC BOARD (NASW-7235-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Socket</b>	
JL6953B	25050268	NSCT-4P96
	<b>Radiator</b>	
D6903A	27160483	RAD-152
	<b>Pan head screws</b>	
D6903B,P6904B	82143010	3P+10FN(BC)
	<b>Spring washer</b>	
D6903C,D6904C	871430	SW-3(BC)

## SPEAKER TERMINAL F/C PC BOARD (NAETC-7236-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Diode</b>	
D6600	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	<b>Capacitors</b>	
C6830-C6832	374731034	0,01uF+/-5%,100V,Plastic
	<b>Resistors</b>	
R6830-R6832	453630824	8,2ohm+/-5%,1W,Metal
	<b>Relays</b>	
RL6600,RL6602	25065563, 25065517 or 25065586	NRL-2P5A-DC24-129, NRL-2P5A-DC24-098 or NRL-2P5A-DC24-142
	<b>Terminals</b>	
P6800	25060309	NTM-6PDMN240
	<b>Plugs</b>	
P6008A	25055167	NPLG-4P151
P6810D	25055166	NPLG-3P150
P6830	25055734	NPLG-3P690

## SPEAKER TERMINAL SR/SB PC BOARD (NAETC-7237-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Diodes</b>	
D6603,D6605	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	<b>Capacitors</b>	
C6833-C6836	374731034	0,01uF+/-5%,100V,Plastic
	<b>Resistors</b>	
R5613	453530474	4,7ohm+/-5%,1/2W,Metal
R6833-R6836	453630824	8,2ohm+/-5%,1W,Metal
	<b>Relays</b>	
RL6603,RL6605	25065563, 25065517 or 25065586	NRL-2P5A-DC24-129, NRL-2P5A-DC24-098 or NRL-2P5A-DC24-142
	<b>Terminals</b>	
P6802	25060307	NTM-8PDMN238
	<b>Plugs</b>	
P6008B	25055169	NPLG-6P153
P6812E	25055168	NPLG-5P152
P6832	25055734	NPLG-3P690
P6931	25055701	NPLG-5P657

## FAN DRIVE CIRCUIT PC BOARD (NAETC-7238-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q5601	2212445	2SK365-GR
Q5602,Q5603	2215864,	KTC3199-GR,
Q5607,Q6701	2212115,	2SC2458-GR,
Q6702	2213284 or 2213285	2SC1740S-R or 2SC1740S-S
Q5604,Q5605	2215820,	KRC104M,
Q5608,Q5609	221282 or 2213560	DTC144ES or RN1204
Q5606	2203595, 2202705, 2202706 or 2203594	KTC2026-GR, 2SD2394-E, 2SD2394-F or KTC2026-Y

## PRINTED CIRCUIT BOARD-PARTS LIST 3

CAUTION: Replacement for transistor of mark \*, if necessary must be made from the same beta group (HFE) as the original type.

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q6704	2215995, 2212125, 2213354 or 2213355	KTA1267-GR, 2SA1048-GR, 2SA933S-R or 2SA933S-S
	<b>Diodes</b>	
D5601	223163,	1SS133,
D5604-D5607	223205 or	1SS270A or
D5609, D5610	223222	WG713A
D5602, D5603	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D5611	224471303	MTZJ13C
D6701, D6702	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
D6703, D6704	224470512	MTZJ5, 1B
	<b>Capacitors</b>	
C5602-C5604	354761019	100uF, 35V, Elect.
C6701, C6706	354761019	100uF, 6, 3V, Elect.
C6704	354780109	1uF, 50V, Elect.
	<b>Resistors</b>	
R5612	443521014	100ohm+/-5%, 1/2W, Metal oxide
R5616	441721224	1,2kohm+/-5%, 2W, Metal oxide
	<b>Sockets</b>	
P7701B	25052201, 25051271, 25051812 or 25052014	NSCT-5P2098, NSCT-5P1060, NSCT-5P1599 or NSCT-5P1801
P9503A	25051231	NSCT-6P1021
JL6933A	25051088	NSCT-4P875
	<b>Clamp</b>	
P6907	260224	CP-1S

## THERMAL DETECTOR CIRCUIT PC BOARD (NAETC-7239-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Thermistors</b>	
R5651	4000153	PTH9M04BF222TS2F333
R5653	4000150	PTH9M04BC222TS2F333
	<b>Socket</b>	
JL6933B	25051088	NSCT-4P875

### AC INLET TERMINAL PC BOARD (NAETC-7242-1G)

CIRCUIT NO.	PART NO.	DESCRIPTION
P901B	25055960	NPLG-2P913
	<b>Plug</b>	
P901B	25055880	NPLG-3P836

## POWER AMPLIFIER DRIVER PC BOARD (NAAF-7250-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q6000-Q6006	2213284 or	2SC1740S-R or
Q6010-Q6016	2213285	2SC1740S-S
Q6020-Q6022	2215995,	KTA1267-GR,
	2212125,	2SA1048-GR,
	2213354 or	2SA933S-R or
	2213355	2SA933S-S
Q6023-Q6026	2211455 or	2SA1015-GR or
	2211454	2SA1015-Y
Q6030-Q6032	2215854,	KTC3206-Y,
	2211633,	2SC2229-O,
	2211634 or	2SC2229-Y or
	2215853	KTC3206-O
Q6033-Q6036	2203434 or	KTD2061-Y or
	2203010	2SC5171
Q6040-Q6042	2215844,	KTA1024-Y,
	2211353,	2SA949-O,
	2211354 or	2SA949-Y or
	2215843	KTA1024-O
Q6043-Q6046	2203424 or	KTB1369-Y or
	2203000	2SA1930

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q6050-Q6056	2203083 or 2203082	* 2SC5359-O or * 2SC5359-R
Q6060-Q6066	2203073 or 2203072	* 2SA1987-O or * 2SA1987-R
Q6070-Q6076	2214984 or 2214985	2SC2631-R or 2SC2631-S
Q6090-Q6092	2203424 or 2203000	KTB1369-Y or 2SA1930
Q6100-Q6102	2203434 or 2203010	KTD2061-Y or 2SC5171
Q6703	2215885, 2211792, 2211793 or 2215886	KTA1268-GR, 2SA992-F, 2SA992-E or KTA1268-BL
	<b>Diodes</b>	
D6000-D6006	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	<b>Cores</b>	
L6000-L6002	5597-45502	
L6010-L6012	5597-45502	
	<b>Capacitors</b>	
C6000-C6006	374721024	1000pF+/-5%,50V,Plastic
C6020-C6022	394501007 394501007 394501007	10uF, 160V,Elect. 10uF, 160V,Elect. 10uF, 160V,Elect.
C6023-C6026	354784709 354784709 354784709 354784709	47uF,50V,Elect. 47uF,50V,Elect. 47uF,50V,Elect. 47uF,50V,Elect.
C6030-C6036	374734734 374734734 374734734 374734734 374734734 374734734 374734734	0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic 0,047uF+/-5%,100V,Plastic
C6510-C6514	354790479 354790479 354790479 354790479 354790479	4,7uF,100V,Elect. 4,7uF,100V,Elect. 4,7uF,100V,Elect. 4,7uF,100V,Elect. 4,7uF,100V,Elect.
C6520-C6523	354790479 354790479 354790479 354790479	4,7uF,100V,Elect. 4,7uF,100V,Elect. 4,7uF,100V,Elect. 4,7uF,100V,Elect.
C6531-C6533	374721034 374721034 374721044	0,01uF+/-5%,50V,Plastic 0,01uF+/-5%,50V,Plastic 0,1uF+/-5%,50V,Plastic
C6901,C6902	3504374	15000uF,71V,Elect.
	<b>Resistors</b>	
R6040-R6046	5210258	N06HR1KBC,Trimming
R6070-R6072	443528204	82ohm+/-5%,1/2W,Metal oxide
R6073-R6076	443521814	180ohm+/-5%,1/2W,Metal oxide
R6080-R6082	443521004	10ohm+/-5%,1/2W,Metal oxide
R6083-R6086	453530224	2,2ohm+/-5%,1/2W,Metal oxide
R6090-R6092	443521004	10ohm+/-5%,1/2W,Metal oxide
R6093-R6096	453530224	2,2ohm+/-5%,1/2W,Metal oxide
R6100-R6106	4000201, 4000132 or 4500245	RF-5EGKR22, RGC55 0,22 or BPR55FK0,22, Metal plate
R6130-R6136	453630824	180ohm+/-5%,1W,Metal oxide
R6230-R6232	443521214	120ohm+/-5%,1/2W,Metal oxide
R6240-R6242	443521214	120ohm+/-5%,1/2W,Metal oxide
R6250-R6252	443521804	18ohm+/-5%,1/2W,Metal oxide
R6260-R6262	443521804	18ohm+/-5%,1/2W,Metal oxide
R6270-R6272	453530224	2,2ohm+/-5%,1/2W,Metal oxide
R6280-R6282	453530224	2,2ohm+/-5%,1/2W,Metal oxide
R6510-R6514	453532294	0,22ohm+/-5%,1/2W,Metal oxide
R6520-R6523	453532294	0,22ohm+/-5%,1/2W,Metal oxide



# PRINTED CIRCUIT BOARD-PARTS LIST 4

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Terminals</b>			<b>Resistors</b>	
P5100A,P5101A	25060301	NTM-1P232(M1700)	R5233-R5236	443521504	15ohm+/-5%,1/2W,Metal oxide
P5201A,P5202A	25060301	NTM-1P232(M1700)	R5243-R5246	443521504	15ohm+/-5%,1/2W,Metal oxide
	<b>Sockets</b>		R5283-R5286	443521034	10kohm+/-5%,1/2W,Metal oxide
P5003	2009990666UL	NSAS-12P0929	R5303-R5306	443521014	100ohm+/-5%,1/2W,Metal oxide
P5004	2009990667UL	NSAS-16P0930	R5333-R5336	443521014	100ohm+/-5%,1/2W,Metal oxide
P6008	2009990670AUL	NSAS-14P0933		<b>Terminals</b>	
P6810	2009990668UL	NSAS-6P0931	P5201,P5202	25060302	NTM-1P233(M1969)
P6812	2009990669UL	NSAS-6P0932		<b>Sockets</b>	
P6931A	25051230	NSCT-5P1020	P6003A-P6006A	25052287	NSCT-4P2184
P6952	2009990671UL	NSAS-6P0934	P6013A	25052289	NSCT-6P2186
	<b>Plugs</b>		P6014A-P6016A	25052287	NSCT-4P2184
P6000-P6006	25056009	NPLG-4P0959			
P6010	25056011	NPLG-6P0961			
P6011,P6012	25056009	NPLG-4P0959			
P6013	25056011	NPLG-6P0961			
P6014-P6016	25056009	NPLG-4P0959			
P6080-P6086	25055038	NPLG-2P29			
	<b>Retainer</b>				
P6009	27141794	(BUS)			
	<b>Bus bars</b>				
P6202,P6203	27141753	BBL50			
P6204,P6208	27141774	BBL75			
P6205-P6207	27141753	BBL50			
	<b>Holders</b>				
P6211-P6213	27190540-1	Clamp			
P6214	27190608-1	Clamp			
	<b>Clamps</b>				
P6301-P6303	260224	CP-1S			
P6305-P6307	260224	CP-1S			
P9508	27301394	HL-18-0			
	<b>Heat sinks</b>				
Q6090A-Q6092A	27160486	RAD-155			
	<b>Screws</b>				
Q6090B-Q6092B	838430107	3TTB+10S(BC)			
Q6100B-Q6102B	838430107	3TTB+10S(BC)			
<b>POWER AMPLIFIER DRIVER PC BOARD (NAAF-7251-1C)</b>			<b>POWER SUPPLY CIRCUIT PC BOARD (NAPS-7252-1C)</b>		
CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>			<b>ICs</b>	
Q5003-Q5006	2215896,	KTC3200-BL,	Q9401	222780155JRC	NJM78M15FA
Q5013-Q5016	2210755,	2SC1775A-E,	Q9411	222790155JRC	NJM79M15FA
Q5023-Q5026	2210756 or	2SC1775A-F or	Q9421,Q9431	222780054JRC	NJM7805FA
	2211733	2SC1845-E	Q9441	222790054JRC	NJM7905FA
Q5033-Q5036	2215844,	KTA1024-Y,		<b>Transistors</b>	
Q5043-Q5046	2211353,	2SA949-O,	Q6901	2215864,	KTC3199-GR,
Q5053-Q5056	2211354 or	2SA949-Y or		2212115,	2SC2458-GR,
	2215843	KTA1024-O		2213284 or	2SC1740S-R or
Q5083-Q5083	2215854,	KTC3206-Y,	Q9501	2213285	2SC1740S-S
	2211633,	2SC2229-O,		2211644	2SA965-Y
	2211634 or	2SC2229-Y or		<b>Diodes</b>	
	2215853	KTC3206-O	D9501,D9502	22380285,	RS403M,
	<b>Diodes</b>			22380022 or	RBV402 or
D5003-D5006	224470562	MTZJ5,6B		22380271	D3SBA20
	<b>Capacitors</b>		D9506,D9507	22380260,	RL1N4003,
C5003-C5006	393384707	47uF,50V,Elect.		22380032 or	1SR139-100 or
C5013-C5016	374722215	220pF+/-10%,50V,Plastic		22380035	GP104003E
C5043-C5046	393341017	100uF,16V,Elect.	D9508	224473304	MTZJ33D
C5053-C5056	354781009	10uF,50V,Elect.		<b>Capacitors</b>	
C5073-C5076	354791009	10uF,100V,Elect.	C9401,C9402	394561007	10uF,35V,Elect.
C5083-C5086	354772209	22uF,63V,Elect.	C9411,C9412	394561007	10uF,35V,Elect.
C5093-C5096	354784709	47uF,50V,Elect.	C9421,C9422	394561007	10uF,35V,Elect.
C5103-C5106	374721015	100pF+/-10%,50V,Plastic	C9431,C9432	394561007	10uF,35V,Elect.
C5123-C5126	354794709	47uF,100V,Elect.	C9441,C9442	394561007	10uF,35V,Elect.
C5133-C5136	354794709	47uF,100V,Elect.	C9501-C9504	374723344	0,33uF+/-5%,50V,Plastic
	<b>Resistors</b>		C9505,C9507	354762229S	2200uF,35V,Elect.
R5133-R5136	443528214	820ohm+/-5%,1/2W,Metal oxide	C9506	354761029S	1000uF,35V,Elect.
R5143-R5146	443528214	820ohm+/-5%,1/2W,Metal oxide	C9508	354744729S	4700uF,16V,Elect.
R5153-R5156	443521034	10kohm+/-5%,1/2W,Metal oxide	C9509	354751029S	1000uF,25V,Elect.
R5163-R5166	443521024	1kohm+/-5%,1/2W,Metal oxide	C9510	354772219S	220uF,63V,Elect.
R5173-R5176	443528214	820ohm+/-5%,1/2W,Metal oxide	C9513	374723344	0,33uF+/-5%,50V,Plastic
R5183-R5186	443523304	33ohm+/-5%,1/2W,Metal oxide	C9521-C9523	374722234	0,022uF+/-5%,50V,Plastic
				<b>Resistors</b>	
			R9401,R9402	441721504	15ohm+/-5%,2W,Metal oxide
			R9411,R9412	441722704	27ohm+/-5%,2W,Metal oxide
			R9421-R9424	441620824	8,2ohm+/-5%,1W,Metal oxide
			R9431,R9433	441621004	10ohm+/-5%,1W,Metal oxide
			R9442,R9444	441622204	22ohm+/-5%,1W,Metal oxide
			R9506	443522204	22ohm+/-5%,1/2W,Metal oxide
			R9521	453530224	2,2ohm+/-5%,1/2W,Metal
				<b>Fuses</b>	
			F9501,F9502	252160 or	2,5A-UL/T-237 or
				252254	2,5A-T/UL-ST2
			F9503,F9504	252158 or	1,6A-UL/T-237 or
				252252	1,6A-T/UL-ST2
				<b>Fuse holders</b>	
			F9501A,F9501B	25052133	NSCT-1P2031
			F9502A,F9502B	25052133	NSCT-1P2031
			F9503A,F9503B	25052133	NSCT-1P2031
			F9504A,F9504B	25052133	NSCT-1P2031
				<b>Sockets</b>	
			JL6953A,JL9504A	25051108	NSCT-4P895
				<b>Plugs</b>	
			P9501	25055138	NPLG-8P122
			P9502A	25055159	NPLG-15P143
			P9503	25055702	NPLG-6P658



# PRINTED CIRCUIT BOARD-PARTS LIST 5

## THERMAL DETECTOR CIRCUIT PC BOARD (NAETC-7258-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Thermistors</b>	
R5652	4000153	PTH9M04BF222TS2F333
R5654	4000150	PTH9M04BC222TS2F333
	<b>Socket</b>	
JL9504B	25051088	NSCT-4P875

## PREAMPLIFIER CIRCUIT PC BOARD (NAAF-7262-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q4000,Q4420	22241383-R2 or	NJM4565M-D
Q4421,Q4800	22240489R1NE	MPC4570G2-T1(MST)
Q4100	22240943R2	TC9163AF
Q4101	22241221R2	TC9164AF
Q4200-Q4203	22241640R2	TC94A07F
Q4210-Q4213	22241450-R2 or	NJM2082M-D or
Q4410,Q4411	22241567R2	NJM2082M
Q4400,Q4401	22241451R9	NJU7306G
	<b>Transistors</b>	
Q4491	2215410R2	RN1441
Q4600-Q4607	2215410R2	RN1441
Q4610-Q4617	2215410R2	RN1441
Q4810-Q4815	2215410R2	RN1441
	<b>Diode</b>	
D4540	224490510R2	UDZ5,1B
	<b>Capacitors</b>	
C3600-C3607	374723314	330pF+/-5%,50V,Plastic
C3610-C3617	393381007	10uF,50V,Elect.
C3800-C3802	393384707	47uF,50V,Elect.
C3803-C3806	393381007	10uF,50V,Elect.
C3807	354724719	470uF,6,3V,Elect.
C3820,C3821	393384707	47uF,50V,Elect.
C3840,C3841	393381007	10uF,50V,Elect.
C4010,C4011	393381007	10uF,50V,Elect.
C4120	354742219	220uF,16V,Elect.
C4121	354741029S	100uF,16V,Elect.
C4200-C4207	393381007	10uF,50V,Elect.
C4217	374721024	1000pF+/-5%,50V,Plastic
C4220-C4227	393382207	22uF,50V,Elect.
C4400-C4402	393384707	47uF,50V,Elect.
C4407	393384707	47uF,50V,Elect.
C4417	374721024	1000pF+/-5%,50V,Plastic
C4420-C4422	354741009	10uF,16V,Elect.
C4430-C4432	374721044	0,1uF+/-5%,50V,Plastic
C4440-C4442	374724724	4700pF+/-5%,50V,Plastic
C4491	374721024	1000pF+/-5%,50V,Plastic
C4492	354724719	470uF,6,3V,Elect.
C4522,C4523	354741009	10uF,16V,Elect.
C4524,C4525	354742219	220uF,16V,Elect.
C4540	354721019	100uF,6,3V,Elect.
C4600-C4607	393384707	47uF,50V,Elect.
C4610-C4617	374722224	2200pF+/-5%,50V,Plastic
C4800,C4801	354741009	10uF,16V,Elect.
C4802,C4803	354780229	2,2uF,50V,Elect.
C4806,C4807	354721019	100uF,6,3V,Elect.
C4808,C4809	374722224	2200pF+/-5%,50V,Plastic
	<b>Resistors</b>	
R4520,R4521	4500171F	2,2ohm+/-5%,1/4W,Metal oxide
	<b>Terminals</b>	
P3600,P4600	25045587	NPJ-4PDBRW398
P3601,P4601	25045582 or	NPJ-4PDRW393 or
	25045491	NPJ-4PDBL308
	<b>Sockets</b>	
P4010B	25051235	NSCT-10P1025
P4011B,P4020B	25051240	NSCT-15P1030
	<b>Plugs</b>	
P4012A	25055734	NPLG-3P690
P5003E	25055152	NPLG-8P136
P5004E	25055153	NPLG-9P137
	<b>Bus bars</b>	
J4220-J4222	27141754	BBL60

## AUDIO TERMINAL PC BOARD (NAAF-7263-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q1001	222780125	78M12HF
Q3000	22241383-R2 or	NJM4565M-D
Q3020,Q3021	22240489R1NE	MPC4570G2-T1(MST)
Q3100	22241639R2	TC9273F-017
	<b>Transistor</b>	
Q1102	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
	<b>Capacitors</b>	
C1002	354741009	10uF,16V,Elect.
C1003,C1006	354780339	3,3uF,50V,Elect.
C1007	354741009	10uF,16V,Elect.
C3000,C3001	374722215	220pF+/-10%,50V,Plastic
C3002,C3003	393384707	47uF,50V,Elect.
C3004,C3005	374721524	1500pF+/-5%,50V,Plastic
C3006,C3007	354722219	220uF,6,3V,Elect.
C3008,C3009	374721234	0,012uF+/-5%,50V,Plastic
C3010,C3011	374723924	3900pF+/-5%,50V,Plastic
C3020-C3023	374723314	330pF+/-5%,50V,Plastic
C3026-C3029	393384707	47uF,50V,Elect.
C3120,C3121	354744709	47uF,16V,Elect.
C3122,C3123	354742219	220uF,16V,Elect.
	<b>Terminals</b>	
P3000,P3001	25045582 or	NPJ-4PDRW393 or
	25045491	NPJ-4PDBL308
	<b>Sockets</b>	
P1010A	25052248,	NSCT-15P2145,
	25051859 or	NSCT-15P1646 or
	25052061	NSCT-15P1848
P3010B	25051232	NSCT-7P1022
P3011B	25051240	NSCT-15P1030

## VIDEO TERMINAL PC BOARD (NAAF-7264-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q3200-Q3205	22241383-R2 or	NJM4565M-D or
Q3400	22240489R1NE	MPC4570G2-T1(MST)
Q3300	22240829	TC9274N-008
	<b>Transistors</b>	
Q3410-Q3043	2215410R2	RN1441
	<b>Capacitors</b>	
C3200-C3209	374723314	330pF+/-5%,50V,Plastic
C3212-C3223	393384707	47uF,50V,Elect.
C3320-C3323	354742219	220uF,16V,Elect.
C3400-C3403	393384707	47uF,50V,Elect.
C3404,C3405	374721024	1000pF+/-5%,50V,Plastic
	<b>Resistors</b>	
R3320,R3321	443522204	22ohm+/-5%,1/2W,Metal oxide
	<b>Terminals</b>	
P3200-P3203	25045582 or	NPJ-4PDRW393 or
	25045491	NPJ-4PDBL308
	<b>Sockets</b>	
P3210B,P3211B	25051232	NSCT-7P1022
	<b>Plug</b>	
P3220A	25055133	NPLG-3P117

## IR TERMINAL PC BOARD (NAAF-7264-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q1503,Q1504	22241383-R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
Q1530	222780053	78L05
	<b>Transistors</b>	
Q1506,Q1507	2215410R2	RN1441
	2215410R2	RN1441
Q1531	2216175R2 or	KTC3875-GR or
Q1534-Q1536	2213145R2	2SC2712-GR
Q1532,Q1533	2216190R2 or	KRC102S or
Q1538	2214470R2	RN1402
Q1537	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR

# PRINTED CIRCUIT BOARD-PARTS LIST 6

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Diodes</b>	
D1500-D1503	223234R2 or	1SS352 or
	223269R2	1SS355
D1530,D1531	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
	<b>Capacitors</b>	
C1500,C1501	354780229	2,2uF,50V,Elect.
C1502,C1503	354741009	10uF,16V,Elect.
C1504,C1505	354780229	2,2uF,50V,Elect.
C1508-C1515	374721024	1000pF+/-5%,50V,Plastic
C1516-C1523	354781009	10uF,50V,Elect.
C1530	354761019	100uF,35V,Elect.
C1531	354741009	10uF,16V,Elect.
C1532	374722234	0,022uF+/-5%,50V,Plastic
C1533,C1534	374721024	1000pF+/-5%,50V,Plastic
C1540,C1541	354741009	10uF,16V,Elect.
	<b>Resistor</b>	
R1546	443524714	470ohm+/-5%,1/2W,Metal oxide
	<b>Terminals</b>	
P1501	25045598	HEC0470-01-630
P1503	25045504	NPJ-1PDBL319
P1504	25045647	HSJ1002-01-1020
	<b>Sockets</b>	
P1502	25052631	NSCT-32P2528
P2905B	25051235	NSCT-10P1025

## CONNECTOR PC BOARD (NAAF-7267-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistors</b>	
Q2901,Q2903	2216175R2 or	KTC3875-GR or
Q2905,Q2907	2213145R2	2SC2712-GR
Q2902,Q2904	2216220R2 or	KRA102S or
Q2906,Q2908	2214530R2	RN2402
Q2909	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
Q2910,Q2912	2212855 or	2SB1068-U or
	2212853	2SB1068-K
Q2911,Q2921	2216190R2 or	KRC102S or
Q2922	2214470R2	RN1402
	<b>Diodes</b>	
D2901-D2903	223234R2 or	1SS352 or
D2921	223269R2	1SS355
	<b>Capacitors</b>	
C2902-C2905	354741009	10uF,16V,Elect.
C2908	354741009	10uF,16V,Elect.
C2909	354741009	10uF,16V,Elect.
C2921	354721019	100uF,6,3V,Elect.
C2922	374722234	0,022uF+/-5%,50V,Plastic
	<b>Thermistors</b>	
R2906	4000195	RXE030
R2909	4000195	RXE030
	<b>Resistors</b>	
R2912	453530474	4,7ohm+/-5%,1/2W,Metal
R2913	453530224	2,2ohm+/-5%,1/2W,Metal
	<b>Relay</b>	
RL2901	25065563	NRL-2P5A-DC24-129
	<b>Sockets</b>	
P4012A	25051255	NSCT-3P1045
P7201B	25051840	NSCT-33P1627
P9502	2009990692UL	NSAS-30P0961
	<b>Plugs</b>	
P2005A	25055708	NPLG-12P664
P2006A	25055711	NPLG-15P667
P2505A	25055708	NPLG-12P664
P2705A	25055704	NPLG-8P660
P2805A	25055704	NPLG-8P660 <J>
P2901A	25055917	NPLG-19P870
P2905A	25055706	NPLG-10P662 ?
P2906	25055701	NPLG-5P657 <D>
P3010A	25055703	NPLG-7P659
P3011A	25055711	NPLG-15P667

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Plugs</b>	
P3210A	25055703	NPLG-7P659
P3211A	25055703	NPLG-7P659
P4010A	25055706	NPLG-10P662
P4011A	25055711	NPLG-15P667
P4020A	25055711	NPLG-15P667
P7703A	25055712	NPLG-20P668
P7704A	25055704	NPLG-8P660
P7705A	25055711	NPLG-15P667
P811A	25055712	NPLG-20P668
	<b>Bus bar</b>	
J2903	27141753	BBL50
	<b>Clamp</b>	
P2902	260224	CP-1S

## COMPOSITE VIDEO CIRCUIT PC BOARD (NAVD-7268-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q2001	22241037	LC74761-9189
Q2005	22241619R2	TC9273F-004
Q2101	222740515R2	74HC4051AF
Q2102,Q2105	22241443R2	TK15420M
Q2201	222740515R2	74HC4051AF
	<b>Transistors</b>	
Q2002,Q2006	2216175R2 or	KTC3875-GR or
Q2103,Q2106	2213145R2	2SC2712-GR
Q2003,Q2004	2216031R2 or	RN1444-A or
Q2108,Q2109	2216032R2	RN1444-B
Q2007	2216210R2 or	KRC104S or
	2214490R2	RN1404
Q2011-Q2014	2216220R2 or	KRA102S or
	2214530R2	RN2402
Q2104,Q2107	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR
Q2301-Q2308	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
	<b>Diodes</b>	
D2001	223234R2 or	1SS352 or
D2006,D2007	223269R2	1SS355
D2103,D2104	223234R2 or	1SS352 or
D2106,D2107	223269R2	1SS355
	<b>Crystal</b>	
X2001	3010167 or	XTL-14,32M or
	3010347	HQS-HC49U-14318-11
	<b>Coils</b>	
L2001	231292J056R2	NCH-1572
L2002	231237K022R2	NCH-1471
	<b>Capacitors</b>	
C2001	354721019	100uF,6,3V,Elect.
C2002,C2016	354780109	1uF,50V,Elect.
C2005	354783399	0,33uF,50V,Elect.
C2015	374726824	6800pF+/-5%,50V,Plastic
C2017	374722234	0,022uF+/-5%,50V,Plastic
C2020	354784799	0,47uF,50V,Elect.
C2021	375524744	0,47uF+/-5%,50V,Plastic
C2022,C2024	354721019	100uF,6,3V,Elect.
C2026,C2028	354741009	10uF,16V,Elect.
C2044	354741009	10uF,16V,Elect.
C2045	354780229	2,2uF,50V,Elect.
C2046	354784799	0,47uF,50V,Elect.
C2047	354721019	100uF,6,3V,Elect.
C2104,C2106	354721019	100uF,6,3V,Elect.
C2121	354741009	10uF,16V,Elect.
C2204,C2206	354721019	100uF,6,3V,Elect.
C2221,C2306	354721019	100uF,6,3V,Elect.
C2301-C2304	354721019	100uF,6,3V,Elect.
	<b>Terminals</b>	
P2001-P2003	25045363	NPJ-3PDYE208
	<b>Sockets</b>	
P2005B	25051237	NSCT-12P1027
P2006B	25051240	NSCT-15P1030
P2007B	25051241	NSCT-20P1031

# PRINTED CIRCUIT BOARD-PARTS LIST 7

## S VIDEO CIRCUIT PC BOARD (NAVD-7269-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q2501,Q2511	222740515R2	74HC4051AF
Q2502,Q2602	22241443R2	TK15420M
Q2601,Q2611	222740515R2	74HC4051AF
	<b>Transistors</b>	
Q2401-Q2414	2216031R2 or 2216032R2	RN1444-A or RN1444-B
Q2503,Q2505	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
Q2504,Q2506	2216185R2 or 2214375R2	KTA1504-GR or 2SA1162-GR
Q2522,Q2622	2216031R2 or 2216032R2	RN1444-A or RN1444-B
	<b>Diodes</b>	
D2503-D2506	223234R2 or 223269R2	1SS352 or 1SS355
	<b>Coils</b>	
L2508,L2608	231237K022R2	NCH-1471
L2509,L2609	231292J056R2	NCH-1572
	<b>Capacitors</b>	
C2422,C2424	354721019	100uF,6,3V,Elect.
C2426,C2428	354721019	100uF,6,3V,Elect.
C2432	354721019	100uF,6,3V,Elect.
C2504,C2506	354721019	100uF,6,3V,Elect.
C2573,C2575	354721019	100uF,6,3V,Elect.
C2604,C2606	354721019	100uF,6,3V,Elect.
	<b>Sockets</b>	
P2501	25051955	NSCT-4P1742
P2502	25051957	NSCT-12P1744
P2503,P2504	25051956	NSCT-8P1743
P2505B	25051237	NSCT-12P1027
P2507B	25051241	NSCT-20P1031
	<b>Plug</b>	
P2506A	25055236	NPLG-5P220

## COMPONENT VIDEO CIRCUIT PC BOARD (NAVD-7270-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Transistor</b>	
Q2701	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
	<b>Diode</b>	
D2701	223234R2 or 223269R2	1SS352 or 1SS355
	<b>Relays</b>	
RL2701,RL2702	25065610	NRL-2P1A-DC4,5-156
	<b>Terminals</b>	
P2701-P2703	25045607	NPJ-3PDGLR414
	<b>Socket</b>	
P2705B	25051233	NSCT-8P1023

## RI TERMINAL PC BOARD (NAETC-7272-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q201	22241537R2	MPD4721GS
Q233	222780565	78M56
	<b>Photo coupler</b>	
Q211	24120080	PC817X
	<b>Transistors</b>	
Q231,Q232	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
	<b>Diodes</b>	
D201	223234R2 or 223269R2	1SS352 or 1SS355
D202,D203	223234R2 or 223269R2	1SS352 or 1SS355
	<b>Coil</b>	
L201	230948R2	BLM21A102F
	<b>Thermistors</b>	
R227,R228	4000195	RXE030

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Capacitors</b>	
C201-C204	354780109	1uF,50V,Elect.
C207	354721019	100uF,6,3V,Elect.
C221,C222	354744709	47uF,16V,Elect.
C223	354744709	47uF,16V,Elect.
C231	354741009	10uF,16V,Elect.
C232	354751029S	1000uF,25V,Elect.
	<b>Resistors</b>	
R233	453532294	0,22ohm+/-5%,1/2W,Metal
R234	441721514	150ohm+/-5%,2W,Metal oxide
	<b>Terminals</b>	
P202,P204	25045647	HSJ1002-01-1020
P203	25045647	HSJ1002-01-1020
	<b>Sockets</b>	
JL931A	25051107	NSCT-3P894
P201	25052379	NSCT-9P2277
P2901B	25052142	NSCT-19P2040
P6830B,P6832B	25051255	NSCT-3P1045
	<b>Radiator</b>	
Q233A	27160145	RAD-51
	<b>Screw</b>	
Q233B	82143010	3P+10FN(BC)

## CONNECTOR PC BOARD (NAETC-7273-1D)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Plugs</b>	
P2007A,P2507A	25055712	NPLG-20P668

## DISPLAY CIRCUIT PC BOARD (NADIS-7275-1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>FL tube</b>	
Q7501	212216	16-BT-96GNK
	<b>Remote sensor</b>	
U7201	241335 or 241341	SPS-444-1 or SPS-444-1-E1
	<b>ICs</b>	
Q7201	22241682R3	M30624MGA-359FP
Q7502	22241680R2	M66005-0001FP
	<b>Transistors</b>	
Q7202	2216230R2 or 2214540R2	KRA103S or RN2403
Q7503	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
Q7536,Q7537	2216190R2 or 2214470R2	KRC102S or RN1402
	<b>Diodes</b>	
D7201,D7202	223234R2 or 223269R2	1SS352 or 1SS355
D7203	224490510R2 or 224550510R2	UDZ5,1B or UDZS5,1B
D7501	224490820R2 or 224550820R2	UDZ8,2B or UDZS8,2B
D7521-D7527	225375	SML1216C
D7529-D7532	225375	SML1216C
D7533	225290	SEL4110R
D7534	225292D	SEL4310G-D
D7535	225374	SEL2E10C
	<b>Oscillator</b>	
X7201	3010322	CST16,00MXW0C1,Ceramic
	<b>Coils</b>	
L7201	231237M022R2	NCH-1471
R7201,R7202	230958R1	BK1608LM182-T
	<b>Capacitors</b>	
C7201,C7202	355721019	100uF,6,3V,Elect.
C7203,C7204	375524744	0,47uF+/-5%,50V,Plastic
C7207	355721019	100uF,6,3V,Elect.
C7503,C7510	354721019S	100uF,6,3V,Elect.
C7506	375524744	0,47uF+/-5%,50V,Plastic

## PRINTED CIRCUIT BOARD-PARTS LIST 8

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Switches</b>	
S7541-S7549	25035699	NPS-111-S662
S7551-S7559	25035699	NPS-111-S662
S7561-S7568	25035699	NPS-111-S662
S7571-S7579	25035699	NPS-111-S662
	<b>Sockets</b>	
P7201A	25051877	NSCT-33P1664
P7482A	25051089	NSCT-5P876
P7559A	25051087	NSCT-3P874
	<b>Holder</b>	
Q7501A	27191074A	(FL)

### VOLUME PC BOARD (NASW-7276-1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
S7569	25065575	EC16B2425, Rotary encoder
S7569	25065611	EC16B24C25, Rotary encoder
P7559B	25051087	NSCT-3P874, Socket

### HEADPHONE TERMINAL PC BOARD (NAETC-7277-1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
P7481	25045385	YKB26-5153, Terminal
P7482B	25051089	NSCT-5P876, Socket


### FRONT VIDEO PC BOARD (NAETC-7278-1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>Terminal</b>	
P2510	25045678	NPJ-3PDB475
	<b>Sockets</b>	
P2506B	2009990575UL	NSAS-10P0784
P2508	25051569	NSCT-4P1356
P3220B	2009990420	NSAS-6P0564

### FRONT VIDEO 2 PC BOARD (NAETC-7278-1F)

CIRCUIT NO.	PART NO.	DESCRIPTION
U2501	24120095	TORX179, Photo coupler
L2576	231237M022R2	NCH-1471, Coil
C2579	354741009	10uF, 16V, Elect. Capacitor
P102B	2009990513UL	NSAS-6P0675, Socket

CAUTION: Replacement for transistor of mark \*, if necessary must be made from the same beta group (HFE) as the original type.

NOTE: THE COMPONENTS IDENTIFIED BY MARK  ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

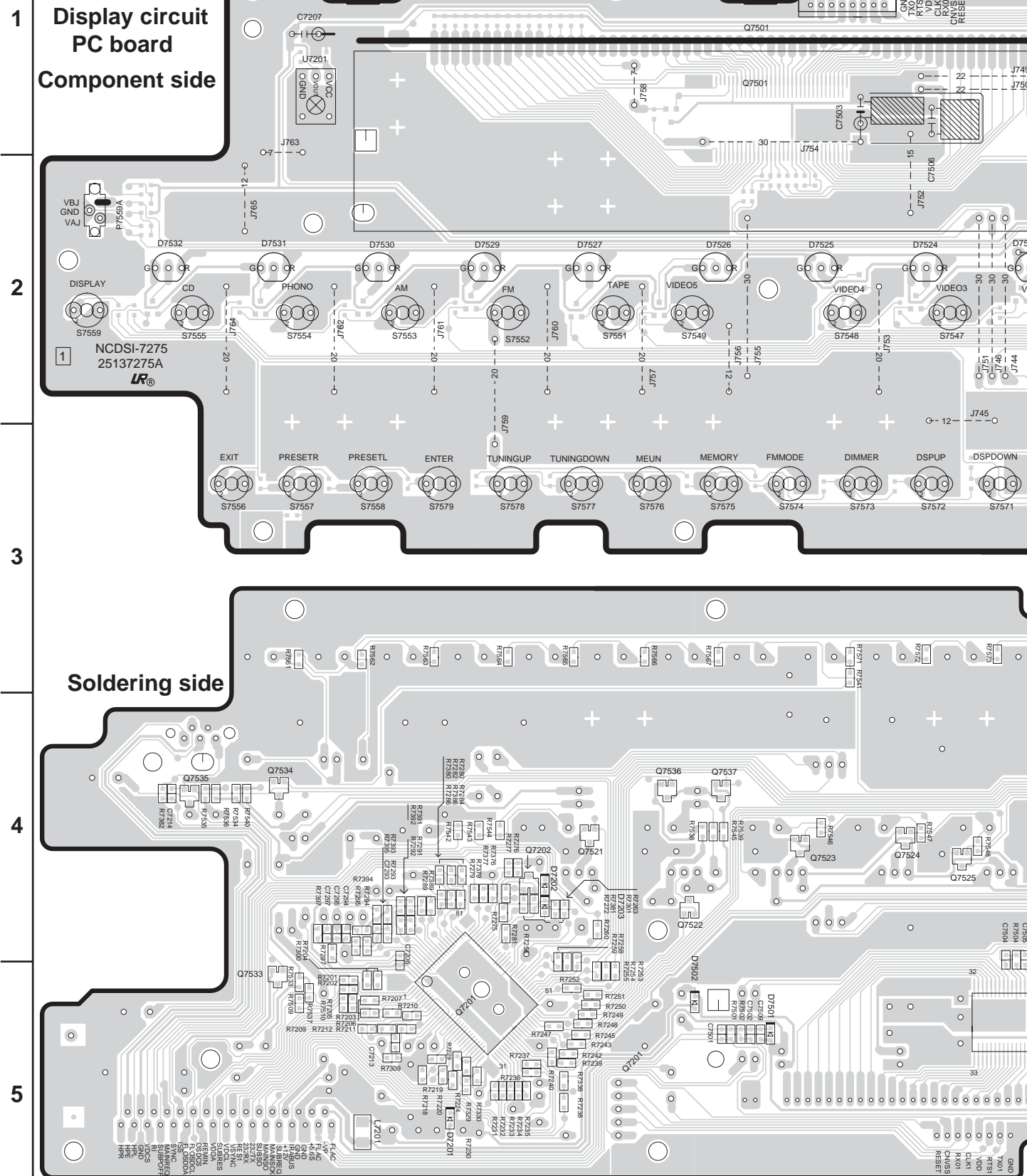
## 5



## A-Bus PC board

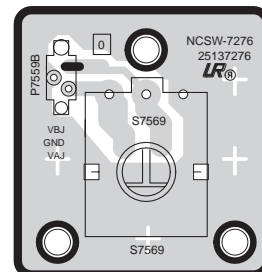
# U44

**Display circuit**  
**PC board**  
**Component side**

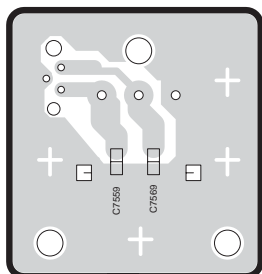




# U46



## Component side

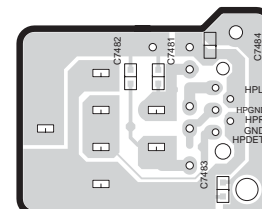


### Soldering side

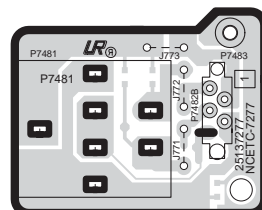
## Volume PC board

U44

**Display circuit**  
**PC board**  
**Component side**



## Soldering side



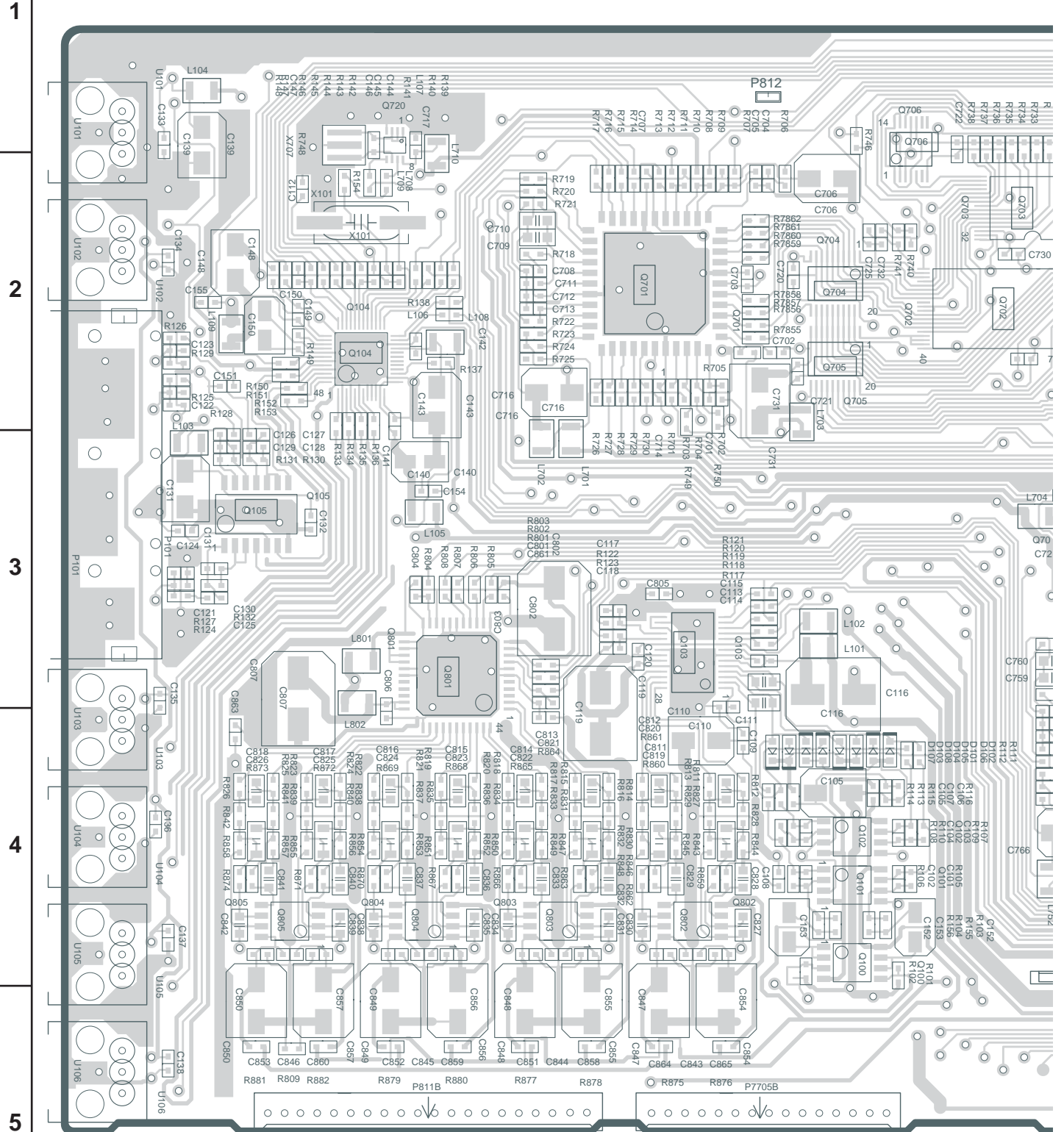
## Component side

**Headphone terminal**  
**PC board**

# U45

## Soldering side

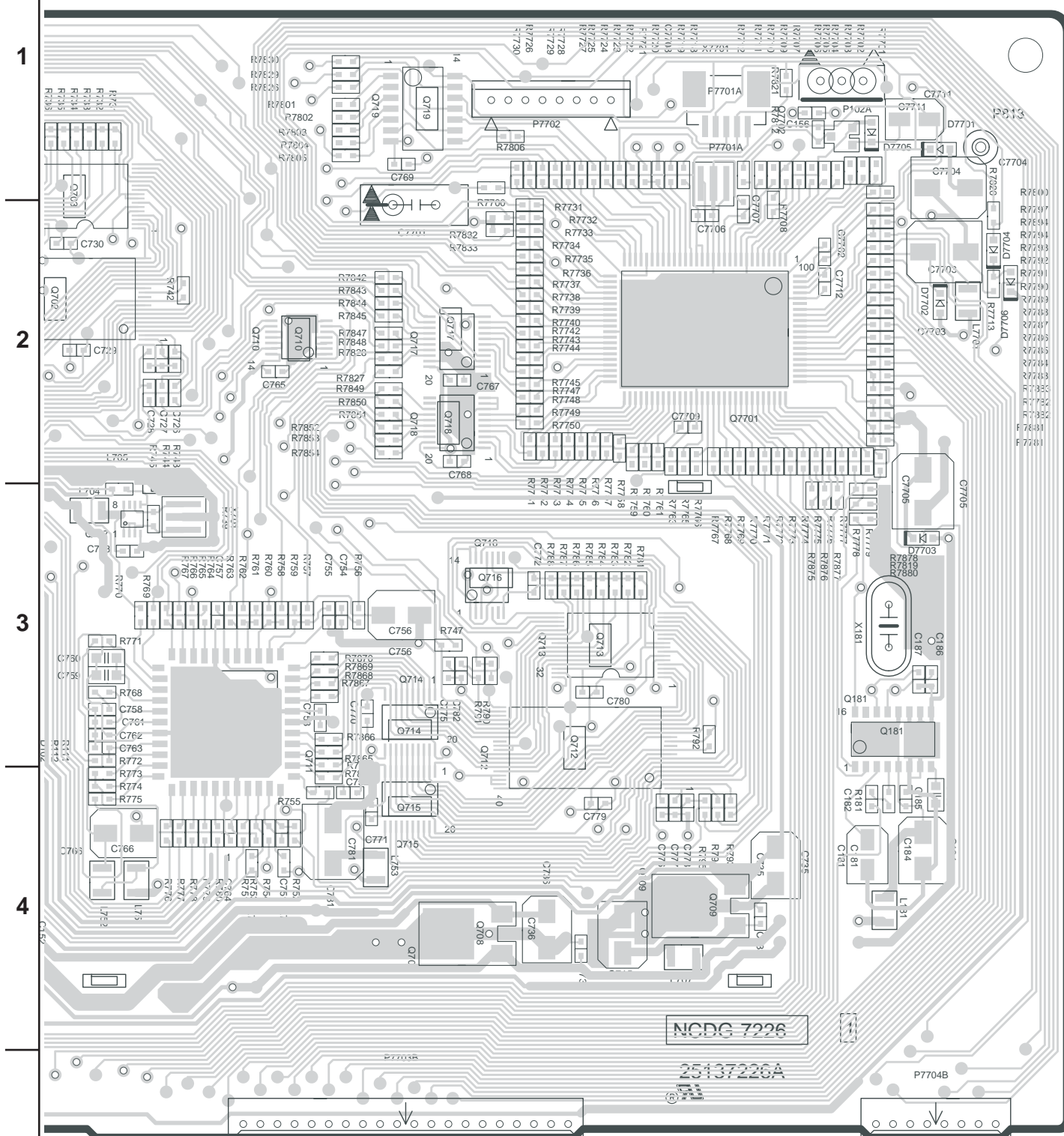
PRINTED CIRCUIT BOARD VIEW FROM COMPONENT SIDE SIDE 2-1

**U1**

Main circuit PC board  
Side A



**PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE**



U1

**Main circuit PC board  
Side A**

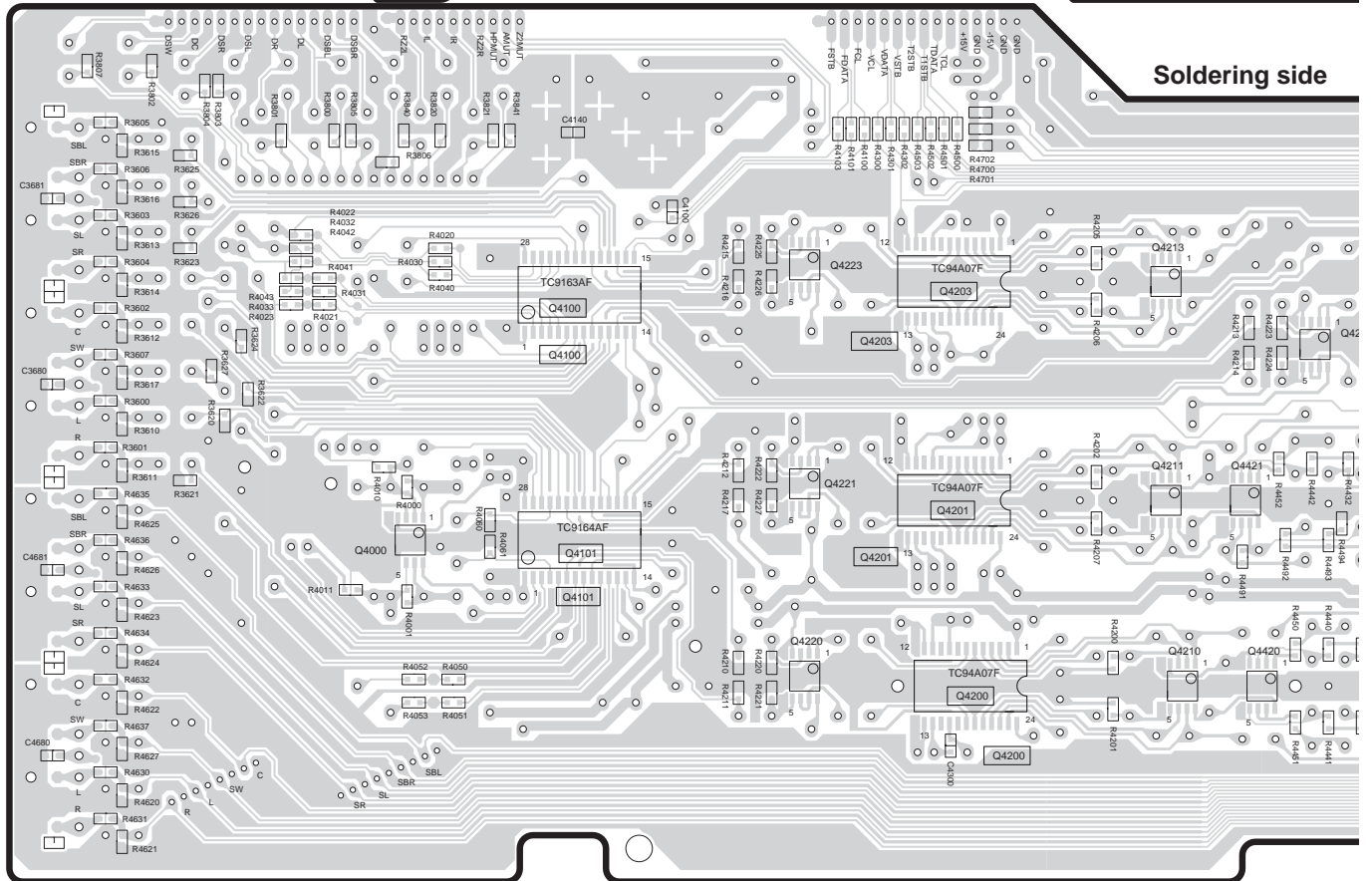
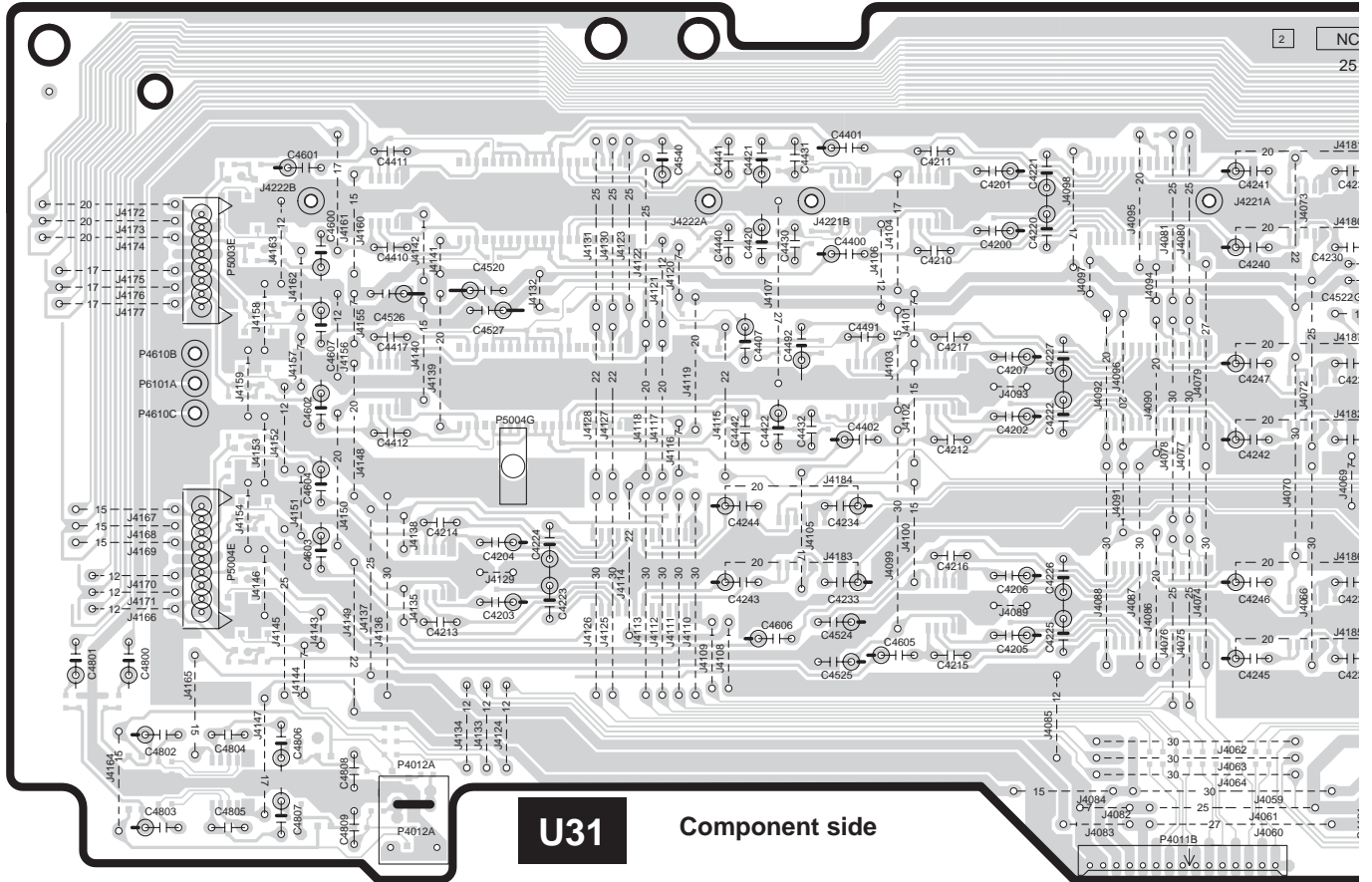
## Video terminal PC board

## 5



## Audio terminal PC board

## PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 4-1



Preamplifier circuit PC board

## 5





## 5



## 5



## 5





## 5



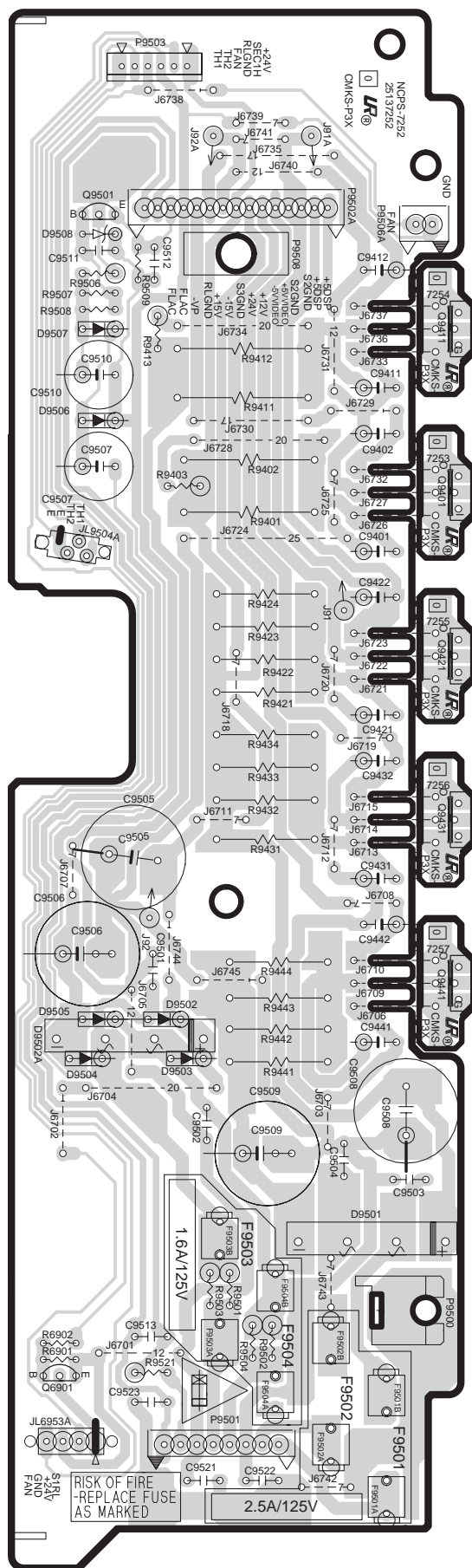
## 5





A B C D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 7-2



U23

Power supply circuit PC board



## 5

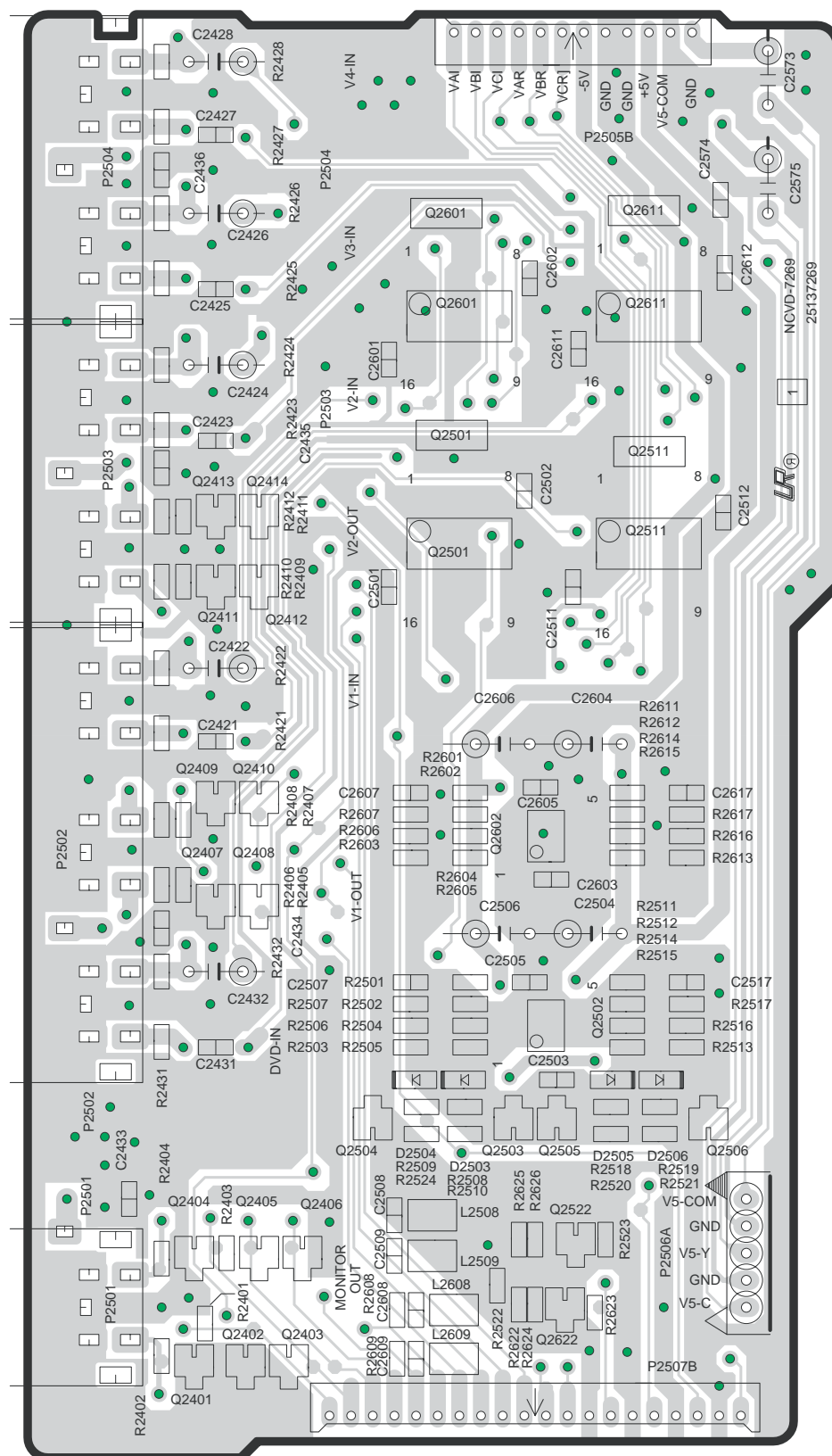
## U8 Rectifier circuit PC board

## Primary circuit PC board

## 5



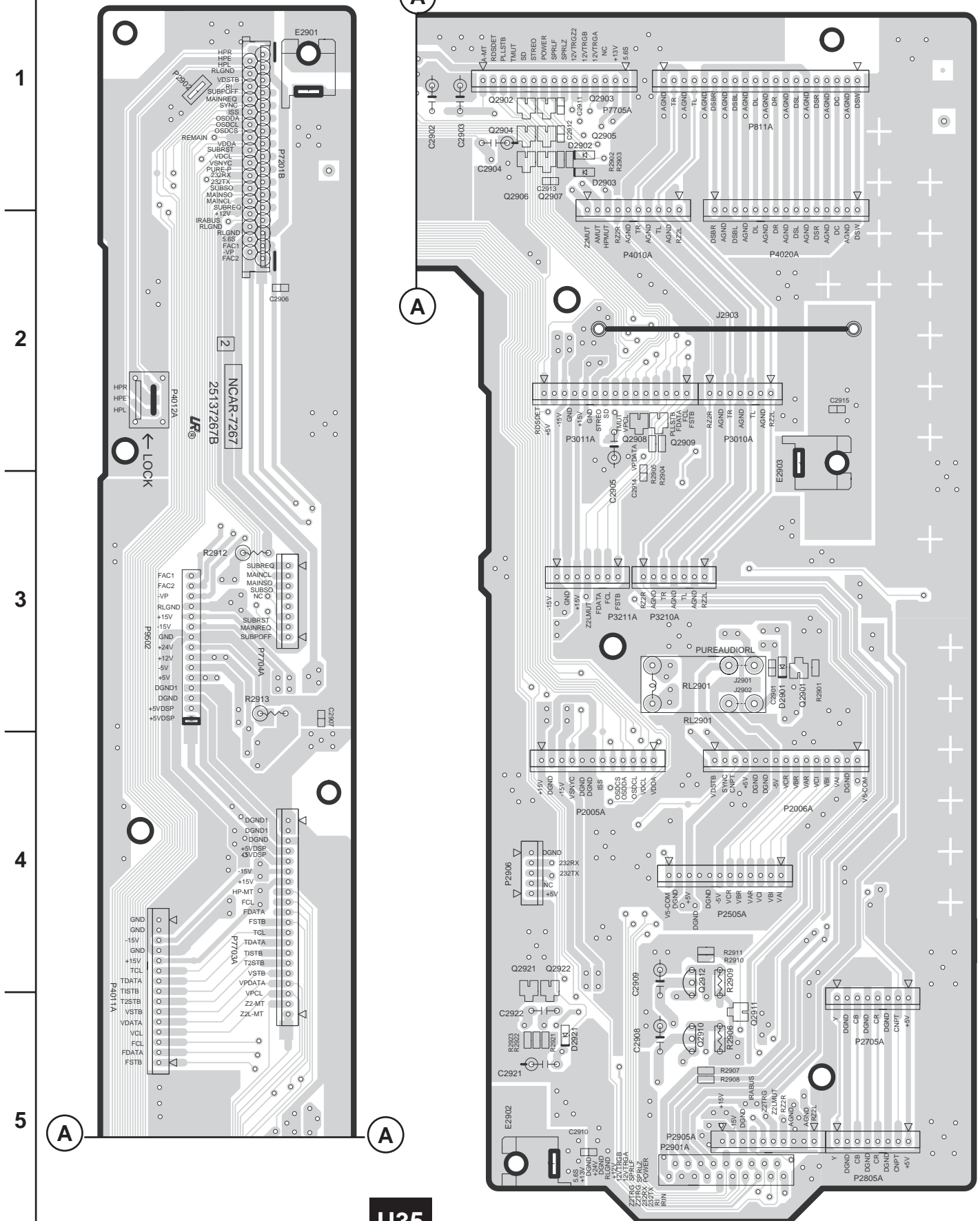
## 5



## S video circuit PC board

# PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 9-1

Connector PC board





## 2



3

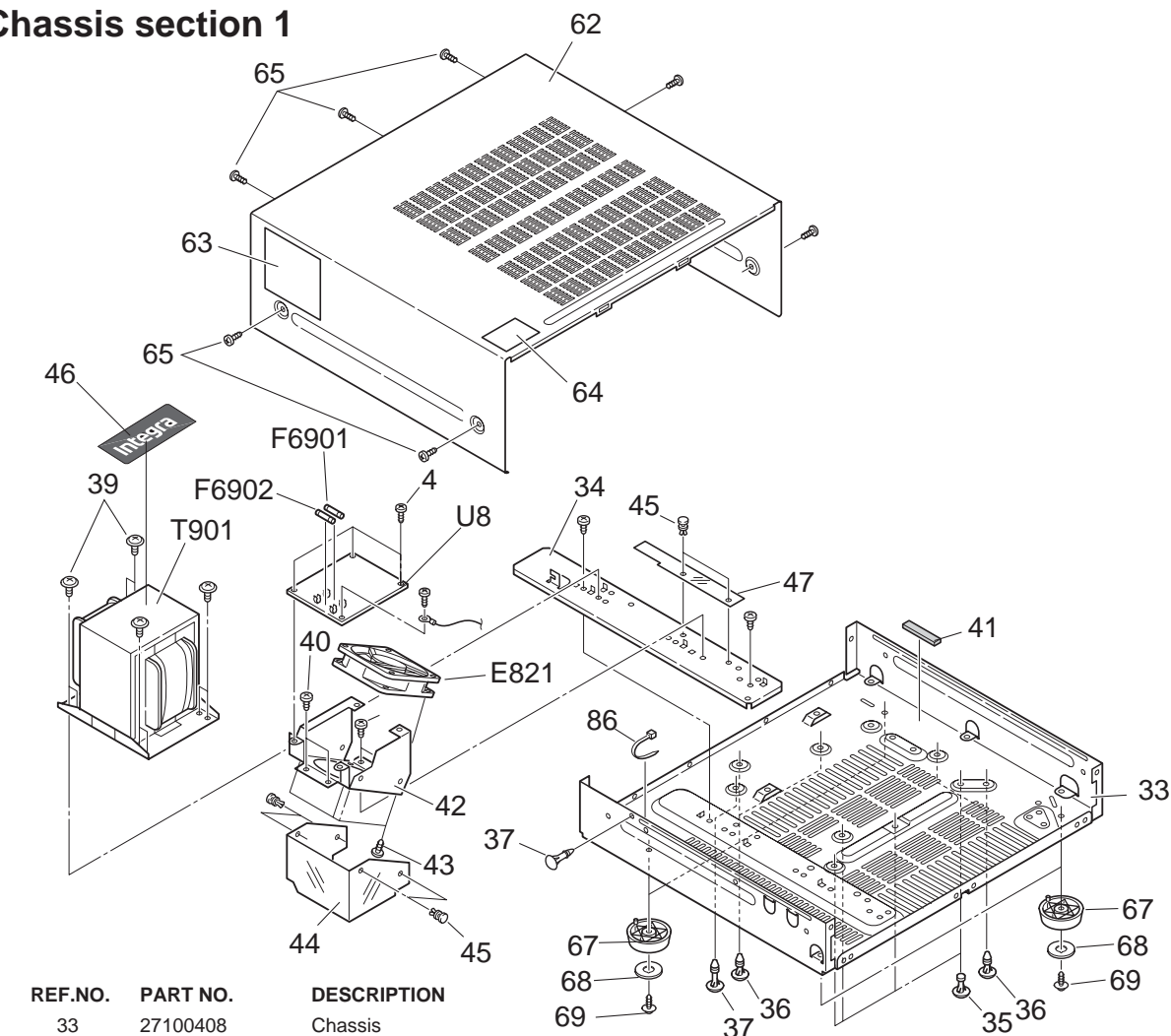


U38

## Component video terminal PC board

# EXPLODED VIEW

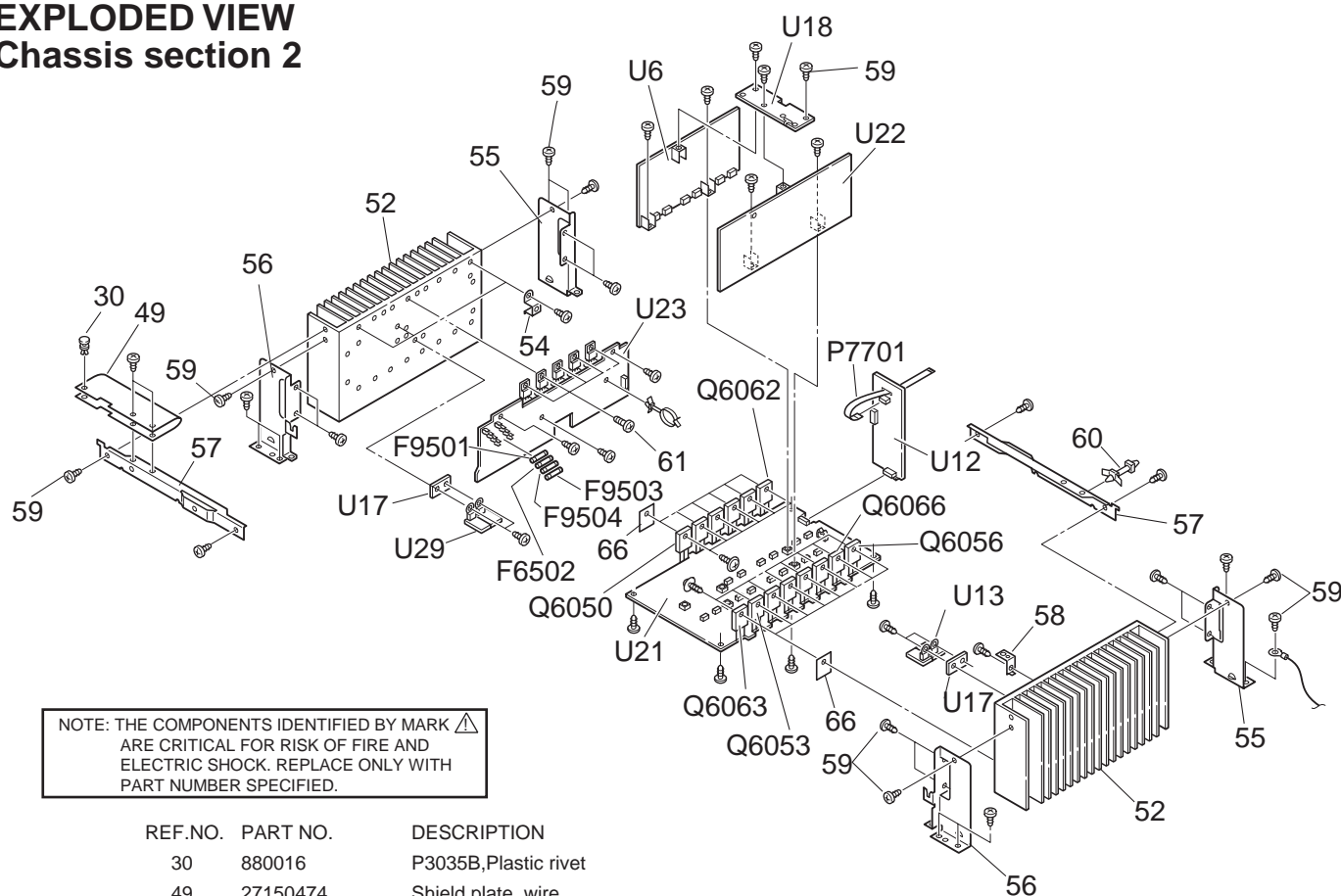
## Chassis section 1



REF.NO.	PART NO.	DESCRIPTION
33	27100408	Chassis
34	27130870	Bracket, power transformer
35	27190965	Holder
36	27190693A	KGLS-6RF,Holder
37	27190266	KGLS-12RF,Holder
39	830440089	4TTC+8C(BC),Self-tapping screw
40	838130088	3TTB+8B,Self-tapping screw
41	28141484	Cushion
42	27141797	Retainer, fan
43	838450108	5TTB+10B(BC),Self-tapping screw
44	27150470	Shield plate, fan
45	880016	P3035B,Plastic rivet
46	29362609	Label PT
47	27150471	Shield plate, amplifier
62	28184817	Top cover
63	29362959	Label
64	29362772	Label, cover
65	838430088	3TTB+8B(BC),Self-tapping screw
67	27175319B	Leg
68	28141332	Cushion
69	831430088	3TTW+8B(BC),Self-tapping screw
86	260208	Wire tie
E821	24502310	D09T-24PG10(EX),Fan
F6901,F6902	252196	12A-UL/T-314,Fuse
T901	2301532	⚠ NPT-1420D,Power transformer
U8	1A906534-1G	NAPS-7234-1G,Rectifier circuit PC board ass'y

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

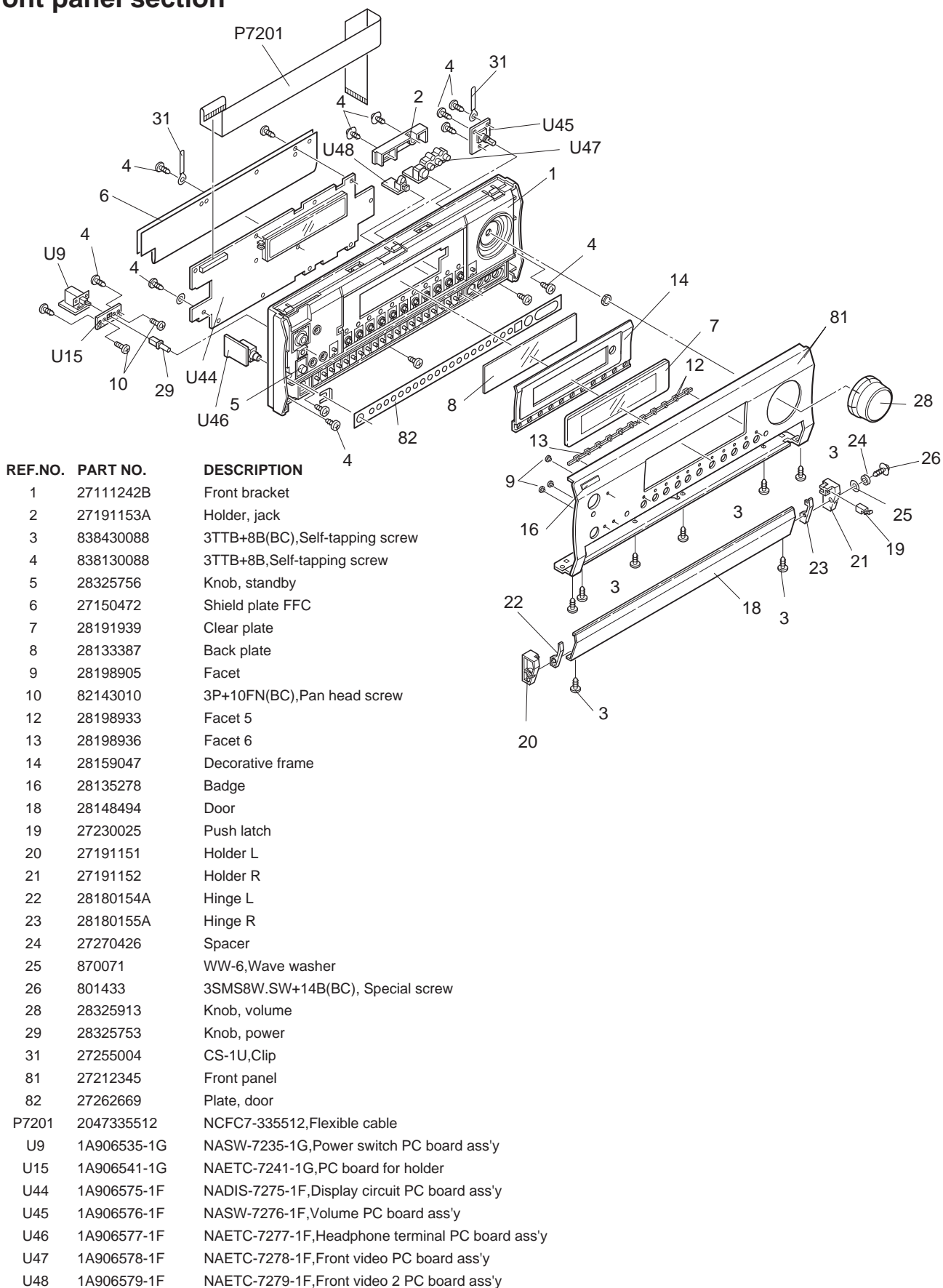
## EXPLODED VIEW Chassis section 2



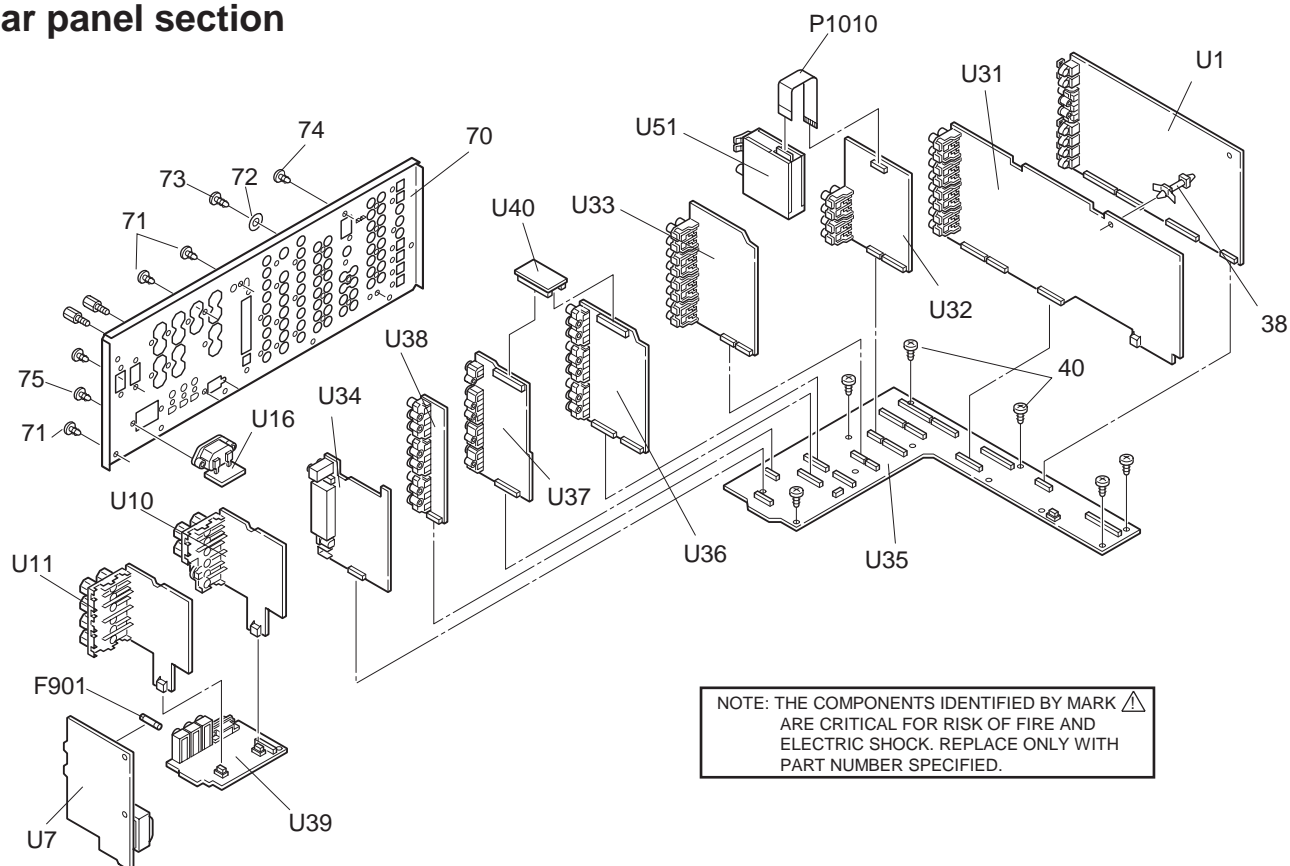
REF.NO.	PART NO.	DESCRIPTION
30	880016	P3035B,Plastic rivet
49	27150474	Shield plate, wire
52	27160489	Heat sink
53	801433	3SMS8W.SW+14B(BC), Special screw
54	27141681	Retainer PWB
55	27141798	Retainer R
56	27141799	Retainer L
57	27130869	Bracket, heat sink
58	27130745	Bracket
59	838130088	3TTB+8B,Self-tapping screw
60	27190470	KGLS-18S,Holder
61	838430107	3TTB+10S(BC),Self-tapping screw
66	223025	AC262,Isolated sheet
F9501	252160 or	2.5A-UL/T-237 or
F9502	252254	2.5A-T/UL-ST2,Fuse
F9503	252158 or	1.6A-UL/T-237 or
F9504	252252	1.6A-T/UL-ST2,Fuse
P7701	2047051012	NCFC7-051012,Flexible cable
Q6050~	2203083 or *	2SC5359-O or
Q6056	2203082 *	2SC5359-R,Transistor
Q6060~	2203073 or *	2SA1987-O or
Q6066	2203072 *	2SA1987-R,Transistor
U6	1A906532-1G	NAAF-7232-1G,Power amp. F/C drive circuit PC board ass'y
U12	1A906538-1G	NAETC-7238-1G,Fan drive circuit PC board ass'y
U13	1A906539-1G	NAETC-7239-1G,Thermal detector circuit PC board ass'y
U17	1A906543-1G	NAETC-7243-1G,PC board for holder
U18	1A906544-1G	NAETC-7244-1G,Ground PC board ass'y
U21	1A906550-1C	NAAF-7250-1C,Power amplifier PC board ass'y
U22	1A906551-1C	NAAF-7251-1C,Power amplifier driver 2 PC board ass'y
U23	1A906552-1C	NAPS-7252-1C,Power supply circuit PC board ass'y
U29	1A906558-1C	NAETC-7258-1C,Thermal detector circuit PC board ass'y


## EXPLODED VIEW

### Front panel section

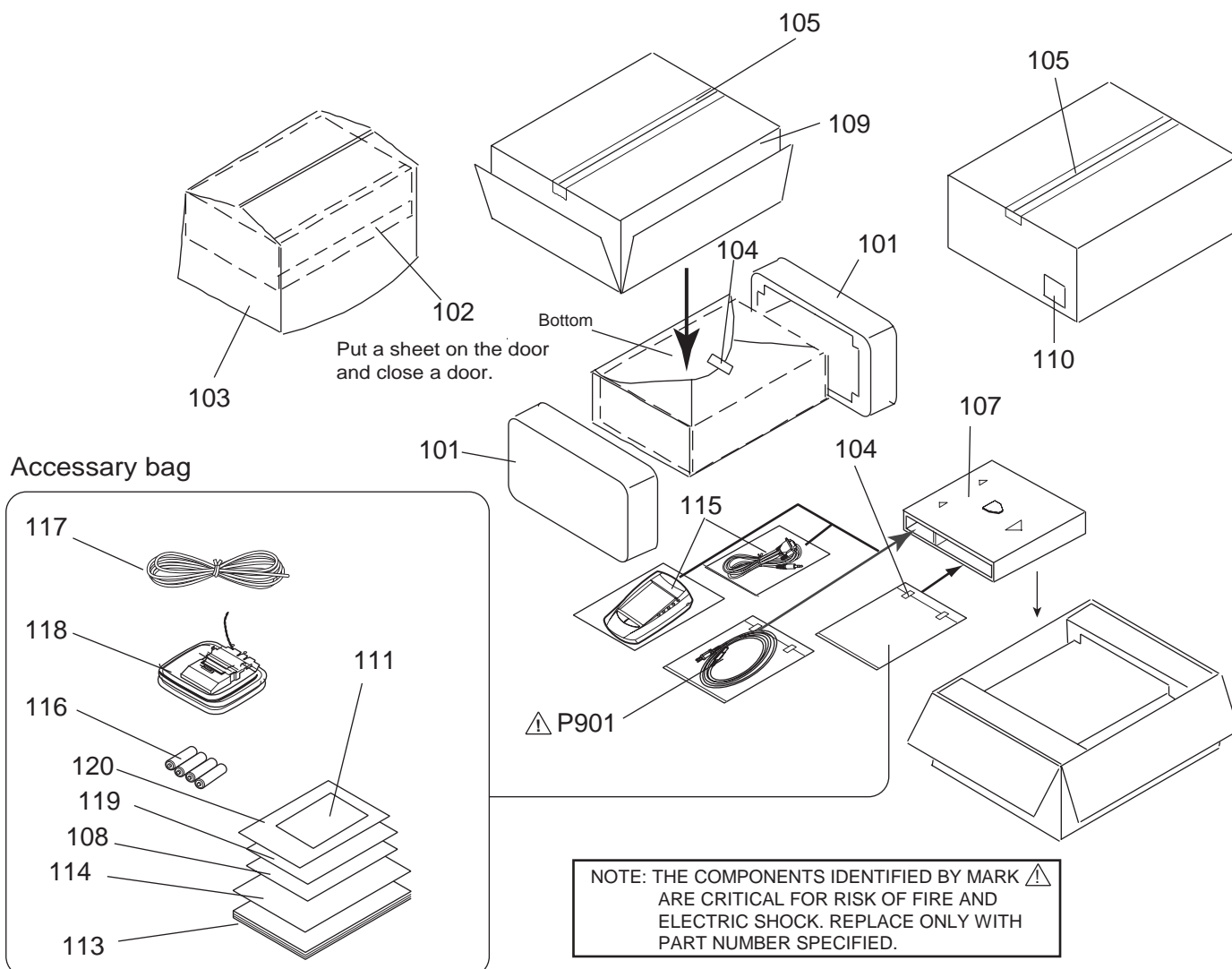


## EXPLODED VIEW Rear panel section



REF.NO.	PART NO.	DESCRIPTION
38	27190164	KGLS-14S,Holder
40	838130088	3TTB+8B,Self-tapping screw
70	27122893A	Rear panel
71	838430088	3TTB+8B(BC),Self-tapping screw
72	87643010	W3*10F(BC),Flat washer
73	838930088	3TTB+8B(UN),Self-tapping screw
74	838430068	3TTB+6B(BC),Self-tapping screw
75	838440089	4TTB+8C(BC),Self-tapping screw
F901	252196	 12A-UL/T-314,Fuse
P1010	2047151012	NCFC7-151012,Flexible cable
U1	1A906526-1C	NADG-7226-1C,Main circuit PC board ass'y
U7	1A906533-1G	NAPS-7233-1G,Primary circuit PC board ass'y
U10	1A906536-1G	NAETC-7236-1G,Speaker terminal F/C PC board ass'y
U11	1A906537-1G	NAETC-7237-1G,Speaker terminal SR/SB PC board ass'y
U16	1A906542-1G	NAETC-7242-1G,AC inlet terminal PC board ass'y
U31	1A906562-1D	NAAF-7262-1D,Preampifeir circuit PC board ass'y
U32	1A906563-1D	NAAF-7263-1D,Audio terminal PC board ass'y
U33	1A906564-1D	NAAF-7264-1D,Video terminal PC board ass'y
U34	1A906565-1D	NAETC-7265-1D, ABUS circuit PC board ass'y
U35	1A906567-1D	NAAR-7267-1D,Connector PC board ass'y
U36	1A906568-1D	NAVD-7268-1D,Composite video circuit PC board ass'y
U37	1A906569-1D	NAVD-7269-1D, S video circuit PC board ass'y
U38	1A906570-1D	NAVD-7270-1D,Component circuit PC board ass'y
U39	1A906572-1D	NAETC-7272-1D,RI terminal PC board ass'y
U40	1A906573-1D	NAETC-7273-1D,PC board for holder
U51	240138A or 240134A	ENG06501QR or TFCE1U114B,Tuner unit

## PACKING PROCEDURES



REF.NO.	PART NO.	DESCRIPTION
101	29092002	Pad
102	29095906	Sheet
103	29100153	1020x720,Poly bag
104	29110149	Tape, cellophane
105	29110148	Tape PP
107	29053790	Carton S
108	29355256	Instruction sheet
109	29053800	Carton box
110	29362924	Label UPC
111	29365089	Warranty card
112	29100097-1A	350*250,Poly bag
113	29343174C	Instruction manual
114	29343175	Instruction sheet
115	24140463	USR-5RF,Remote controller
116	3010358	UM-3,Four batteries
117	292142	FM antenna
118	232140	NMA-3057,AM loop antenna
119	29355371A	Instruction sheet for ABUS
120	29355382	Instruction sheet for DVD
P901	253297KAW	AS-UC-2,Power supply cord

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